

# Vocabulary of Agency:

## Development and Assessment of a Generic Conceptual Framework to Guide Action-Oriented Research in Multiple Domains

**Debiprasad Dash**

(To be referred to as: **Dash, D. P.**)

*Bachelor of Technology (Honours) (Manufacturing Science and Engineering)*  
*Post-Graduate Diploma in Management (General Management)*



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# Preface

There is a criticism against presenting what might be called a *sanitised* version of a research endeavour. A sanitised version is one in which there is little reference to the usual open-endedness and the blind alleys in any research project concerning what to study, how to study, how to identify the relevant literature, how to define the scope, what conclusions to draw, etc. Such sanitised versions make the researcher appear hero-like gliding past obstacles as if with foreknowledge of what is to come. Although such a version is false, such sanitising might still be tolerated in reports on projects where the terms of reference are somehow frozen from the start, but that seems rarely to be the case for PhD projects in management. In the present project, for instance, the research focus has changed at least three times and the semblance of a presentable story has not emerged except towards the end.

Although it is the presentable story that will be told in the ten chapters that follow, it seems appropriate to refer briefly to the conditions and the thought processes that gave rise to the story itself. One of the things this preface will seek to clarify is how the study assumed its present form. The study assumed its final formulation after many revisions. Some of the topics initially considered for the purpose of the PhD are described below.

*A study of some government programmes to economically develop certain regions in India:* The initial intention was to identify ways of making such programmes more effective. In some sense, the causes of failure of such programmes were already known, e.g., the programmes that failed were designed on the basis of a simplified and idealised model of people, institutions, and development processes; various types of interactions were not taken into account; mechanisms were not designed to protect the programmes against detrimental changes in the region and in the environment. These seemed like observations one could make using simple icons from *systems thinking*. It seemed improbable that any new recommendation, without substantial effort spent on redesigning the aims and the institutions of planning, would do much better than the stacks of dusty reports which have been written before. Such research did not seem interesting from the vantage point of management studies, a field which might also emphasise intervention and change.

*A study of expert-led organisational restructuring:* Then the focus shifted to the possible study of an actual large-scale intervention programme which happened to coincide with the period of this PhD. This was the World Bank aided *Power Sector Reform Project* in the State of Orissa in India. Certain practical difficulties were faced in pursuing this. The Project did not seem open to research from outside. Further, the climate of power sector reform in India did not seem conducive to encourage a critical discussion on how such reform might be supported and improved through research. Transnational consulting organisations, supposedly ‘experts’ in privatisation, were commissioned to apply their ‘expertise’ to carry out the reform. As might be expected, there were (and still are) many criticisms of the process. It is still not clear whether the reform has achieved the stated purposes. Instead of trying to improve this type of expert-led programme of change, the focus in the present study shifted to alternative approaches to change and development.

*A study of ‘action research’ approaches:* Thanks to the crucial guidance received from the research supervisors, an entire family of literature on ‘action research’ was identified at this stage. Although the diversity in this literature was tremendous, there was a definite strain of

criticism against expert-led processes of change and development. This immediately seemed to be a relevant body of thought. It seemed to reflect some of the crucial insights of *systems thinking* as well. This gave the study a firm sense of direction. It seemed that the study was going to be based on the literature of *action research* and *systems thinking*. The research question at this stage was not very precise, although there was an interest in studying the emerging issues in action-oriented research.

The initial six months of the programme period had already been spent in this process. The next one year was then devoted to an extensive study of action research and systems thinking literature, as well as some related literature about management and research frameworks. The literature review resulted in an appreciation of the academic debates around the interplay of research and action (Dash, 1996, 1997, 1999). It seemed necessary to explore action research type work in practice in order to develop a richer understanding of the related academic debates.

The next six months were spent in India visiting a number of organisations and discussing with people engaged in various programmes of change and development (see *Appendix B* for some details about these organisations). Action research type thinking and interventions were noticed in a number of application domains, e.g., education, agriculture, organisational development, information systems design, community development, urban planning, etc. It was during this process that a formulation for the study emerged that seemed to have the potential to generate a presentable story. This formulation focused on the need to develop a *generic conceptual framework* for action-oriented research. It seemed without such a framework it was not possible to address the open issues identified in the exploration of the literature and the practice of action-oriented research. The conceptual framework was in need of an integrative notion that would give it the coherence of a presentable story. It was during the explorations in India that the author stumbled upon the integrative notion of *agency*. Suddenly the whole complexion of the study changed. New horizons emerged. Old questions appeared less relevant and gave way to new and more exciting questions. The entire effort of the preceding two years instantly appeared worthwhile.

Another purpose of sharing this process here was also to clarify what the thesis would cover. The focus of the study would still be on the difficulties of merging research and action (i.e., either conceiving research as action or conceiving action as research) in applied disciplines like management studies. These difficulties would be addressed using the generic conceptual framework mentioned above (i.e., using the notion of *agency*). Whether the answers, rather the new questions, provided here would constitute (or trigger) real contributions to management studies should be left for the readers to judge. But, if the current discussions on postmodernism, new physics, artificial intelligence, complex adaptive systems, actor networks, structuration, organisational learning, local knowledge, etc., are any indication, then the ideas and the proposals developed in this thesis should not appear too adventurous or too futuristic.

The thesis will have a predominantly conventional form. Certain justifiable deviations might be noticed, e.g., reference to various academic and other material on the Internet. Besides, the reader is reminded that the author is not a native speaker of English, his first language being Oriya. However, an attempt has been made to adhere to international academic English.



## ଓଡ଼ିଆରେ ଦୁଇଶବ୍ଦ

ଲେଖକର ମାତୃଭାଷା ଓଡ଼ିଆ ଓ ସେହି ଭାଷା ପ୍ରତି  
ଲେଖକର ଅନୁରାଗ ଗଭୀର । ମାତୃଭାଷାକୁ ନେଇ  
ମଧୁବାବୁଙ୍କ ପ୍ରସିଦ୍ଧ ଉକ୍ତିକୁ ଲେଖକ ସମ୍ମାନ କରେ ।  
ଓଡ଼ିଆଭାଷାରେ ଜଟିଳରୁ ଜଟିଳତର ଭାବ ପ୍ରକାଶ କରିବା  
ସମ୍ଭବ ଏହା ଲେଖକ ଅନେକ ଗୁଣାବ୍ୟକ୍ତିଙ୍କ ସଂସ୍ପର୍ଶରେ ଆସି  
ଜାଣିବାକୁ ପାଇଛି । ଲେଖକ ଚିନ୍ତାକରେ, ପରିଚାଳନା  
କ୍ଷେତ୍ରରେ ନୂତନ ଚିନ୍ତାଧାରାକୁ ପ୍ରକାଶ କରିବା ନିମନ୍ତେ  
ଉପଯୁକ୍ତ ପରିଭାଷାର ସୃଷ୍ଟି ଓ ବିଚାର  
ଆବଶ୍ୟକ । ଏହା ଇଂରାଜୀଭାଷା ପ୍ରତି ଯେତିକି ପ୍ରୟତ୍ନ  
ଓଡ଼ିଆଭାଷା ପ୍ରତି ମଧ୍ୟ ସେତିକି ପ୍ରୟତ୍ନ । ପ୍ରସ୍ତୁତ  
ଗବେଷଣାତ୍ମକ ସଂଦର୍ଭରୁ ଏହିକଥା ଜଣାପଡ଼େ ।

## A few words in Oriya

Oriya is the author's mother tongue and his  
affection for that language is deep. The  
author respects the famous statement of  
Madhubabu pertaining to the importance of  
the mother tongue. The author has learnt  
from his interaction with many learned  
people that it is possible to express complex  
and intricate ideas in Oriya. The author feels  
that there is a need to develop and deliberate  
on *appropriate terminology* to articulate  
contemporary perspectives in management  
thinking. This applies to Oriya as it applies to  
English. The present research thesis  
indicates that.

*Bhubaneswar, Orissa, India  
September 1999*

*D. P. Dash*

# Synopsis

## *Results and Contributions*

The study has produced a *generic conceptual framework* for action-oriented research to guide such research in multiple domains of application. The conceptual framework has been expressed in terms of the *vocabulary of agency* (see Table 7.1). It contains the notions of *agency, enhancing agency, resource, roles, mobility, form of interaction, agency-enhancing device, local learning, global learning, operational coupling*, etc. The conceptual framework has been subjected to a multi-stage process of assessment.

The assessment shows that the conceptual framework (expressed as the *vocabulary of agency*) has a certain generality in addressing a whole range of conceptual issues being discussed in management systems thinking and action research fields. Besides, the framework also seems capable of functioning as an effective guide in designing and conducting action-oriented research projects in several domains of application.

It has been argued that the conceptual framework makes, among others, the following contributions to the current academic debates in management systems thinking and action research fields:

- *It opens up a number of possibilities for visualising how research might contribute in a practical situation requiring some kind of support and betterment.*
- *It brings together many crucial issues in action-oriented research using a specific vocabulary thus facilitating research communication.*
- *It helps articulate the role of researchers in action-oriented research projects.*
- *It identifies the place of creativity and innovation in such projects.*
- *It introduces new thinking for the future of action-oriented research.*
- *It indicates alternative research strategies in multi-actor contexts.*
- *It also provides a way to identify what might be derived as results of more general interest from one action-oriented research project and how such results might contribute to different research projects in future.*
- *It suggests a model of research utilisation based on capacity building.*
- *It articulates some research issues concerning 'methodological pluralism'.*
- *It links action research and management systems thinking.*

## *Aims of the Study*

The main aims of the study were the following:

- *To formulate and develop a general conceptual framework to capture some of the key features of action-oriented research.*
- *To test whether the conceptual framework can contribute positively to clarify some of the unresolved issues in the ongoing academic debates about action-oriented research.*
- *To test whether the practical activity of action-oriented research can be enriched in some way by making use of the conceptual framework.*

### *Method of Study*

The study involved two major parts. The first part was concerned with the *development* of a generic conceptual framework for action-oriented research to guide such research in various domains of application and the second part was concerned with the subsequent *assessment* of the framework. The development of the framework involved: (i) a review of a broad range of literature pertaining to action-oriented research, (ii) an exploration of the practice of action-oriented research in India in multiple domains of application, and (iii) an exploration of the integrative notion of *agency* in some research areas. The result of this part was the conceptual framework expressed in terms of the *vocabulary of agency* (see Table 7.1).

The second part of the study, i.e., the assessment of the framework, involved three different components: (i) an assessment of the contributions of the vocabulary to the current academic debates in management systems thinking and action research fields; (ii) a reinterpretation and discussion of an action research project in India in the area of public health; and (iii) a reinterpretation and discussion of an action research project in Sweden in the area of Small and Medium Enterprise (SME) management. The results of this assessment showed that the generic conceptual framework (expressed in terms of the *vocabulary of agency*) has a certain generality in addressing a whole range of conceptual issues relevant to action-oriented research and also capable of functioning as an effective guide in designing and conducting action-oriented research projects in several domains of application.

### *Relevance of the Results*

The results of the present study make a contribution to a fundamental debate about the way we understand the task of academic research in the applied disciplines (including management studies) by providing a way to refer to a whole range of academic activities (e.g., ‘systems thinking’, ‘systems practice’, ‘action research’, ‘reflective practice’, ‘research in the context of application’, etc.) emerging in these disciplines. The traditional understanding about research, i.e., research as the process of producing valid and reliable knowledge that explains the causes of phenomena (the so-called ‘because of’ knowledge), is coming in for strong criticism in applied disciplines where one finds new types of demand being made on research and researchers to produce such knowledge that directly supports some action (the so-called ‘in order to’ knowledge) (see Section 10.2, paragraph titled *Management Studies*).

There is of course a continuing proliferation of methods and ‘methodologies’ to accomplish such action-oriented knowledge. However, this diversity itself raises the difficulties in comparing the methods, selecting one or more in a given situation, and assessing the effects of using these methods. These issues require the development of some coherent framework that would help in clarifying whether these action-oriented alternatives of research relate to each other and whether they contribute to some overall goal. The conceptual framework developed in this study (expressed in terms of the *vocabulary of agency*) might serve this purpose. According to the framework, the aim of *enhancing agency* at the *local* and the *global* levels in a mutually interdependent way is proposed as a new (non-traditional) goal for research, implicit in the various action-oriented methods.

The framework developed in the present study is expected to be relevant to the future of action-oriented research in applied disciplines. It is expected to facilitate the transfer of

insights from research fields which investigate complex, interactive, and collective phenomena. It is also expected to guide action-oriented research in the direction of increasing the general capacity to bring forth new and useful *resources* in multiple domains. In this way, the results might contribute to a broader process of preparation by the contemporary organisations, communities, and other human collectives to deal with the uncertain demands of the new millennium.

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## Chapter 2

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Autopoiesis | <http://www.informatik.umu.se/~rwhit/AT.html>  
Critical Realism | <http://www.usask.ca/hru/criticalrealism/>  
Cybernetics and Systems Theory | <http://pespmc1.vub.ac.be/CYBSYSTH.html>  
Participatory Action Research | <http://www.parnet.org/>  
Welcome to QualPage | <http://www.ualberta.ca/~jrnorris/qual.html>

## Chapter 3

A Lay Person's Guide to Co-operative Inquiry | <http://www.bath.ac.uk/carpp/LAYGUIDE.htm>  
Action Inquiry Network | <http://enhanced-designs.com/actnet/index.htm>  
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Tavistock Institute of Human Relations | <http://www.tavistock.org/>  
The American Society of Group Psychotherapy and Psychodrama | <http://www.asgpp.org>  
The weather graphics by the BBC Weather Centre | <http://www.bbc.co.uk/weather/>  
Verstehen: Max Weber's | <http://msumusik.mursuky.edu/~felwell/http/weber/Whome.htm>

## Chapter 4

Applications of Living Systems Theory | [http://www.newciv.org/ISSS\\_Primer/ase05jm.html](http://www.newciv.org/ISSS_Primer/ase05jm.html)  
Autopoiesis Related Web Sites | <http://server.snni.com/~palmer/autopoiesis/websites.htm>  
Classic RAND Research | <http://www.rgs.edu/Classic.html>  
Cybernetics & Human Knowing: A Journal of Second Order Cybernetics & Cyber-Semiotics |  
<http://www.db.dk/dbaa/sbr/cyber.htm>  
Cybernetics and Systems Journals | <http://pespmc1.vub.ac.be/JOURNALS.html>  
Cybernetics and Systems Theory | <http://pespmc1.vub.ac.be/CYBSYSTH.html>  
High Performance System | <http://www.hps-inc.com/>  
History of Accounting | <http://www.arthurandersen.com/>  
Homepage of W. Ross Ashby | <http://www.gwu.edu/~asc/biographies/ashby/ashby.html>  
International Society for the System Sciences | <http://www.isss.org/>  
Jay W. Forrester | <http://sysdyn.mit.edu/people/jay-forrester.html>  
Landcare System Dynamics | <http://www.agfor.unimelb.edu.au/LSD/links.html>  
Learning Laboratory Projects | <http://learning.mit.edu/prapro/learnlab.html>  
MIT System Dynamics Group | <http://sysdyn.mit.edu/sd-group/home.html>  
Operational Research Society | [http://www.orsoc.org.uk/ors/index\\_f.html](http://www.orsoc.org.uk/ors/index_f.html)  
OR/MS Societies and Regional Groupings | <http://www.maths.mu.oz.au/~worms/soc/soc.html>  
Phrontis Limited | <http://www.phrontis.com/>  
Sociocybernetics | <http://www.unizar.es/sociocybernetics/indice.html>  
Software Process Modeling with System Dynamics | <http://www-rcf.usc.edu/~madachy/sd/>  
SSM Internet Resource | <http://www.bf.rmit.edu.au:81/~andrewf/ssm-res.html>  
System Dynamics in Education | <http://sysdyn.mit.edu/home.html>

Systems Theory | <http://www.ccens.com/systhe.htm>  
 The Challenge of Sociocybernetics | [http://pespmc1.vub.ac.be/Einmag\\_Abstr/FGeyer.html](http://pespmc1.vub.ac.be/Einmag_Abstr/FGeyer.html)  
 Vensim | <http://www.std.com/vensim/>  
 Wiener: Ideas | <http://www.well.com/user/mmcadams/wiener.html>  
 World Oil Forecasting Program | <http://www.halcyon.com/duncanrc/index.html>

## Chapter 6

States of India | <http://www.meadev.gov.in/map/indmap.htm>

## Chapter 7

Agent Related Conferences | [http://gamcho.etri.re.kr/agent\\_conf.html](http://gamcho.etri.re.kr/agent_conf.html)  
 Agents Information | <http://www.cs.bham.ac.uk/~amw/agents/index.html>  
 CWA Limited: Interactive Management Consultants | <http://www.cwaltd.com/>  
 Discover India | <http://www.meadev.gov.in/culture/literature/sanskrit.htm>  
 JAIR Homepage | <http://www.cs.washington.edu/research/jair/home.html>  
 Journal Index | <http://www.wspc.com.sg/journals/journals.html>  
 Learning Laboratory Projects | <http://learning.mit.edu/prapro/learnlab.html>  
 Nobel Prize in Economic Sciences Winners 1996-1969 |  
<http://www.almaz.com/nobel/economics/economics.html>  
 Proceedings of an International Conference on Artificial Intelligence in Education, 1997 |  
[http://www.contrib.andrew.cmu.edu/~plb/AIED97\\_workshop/Proceedings.html](http://www.contrib.andrew.cmu.edu/~plb/AIED97_workshop/Proceedings.html)  
 The Bhagavad-Gita | [http://www.iskcon.org/sastra/f\\_bg.html](http://www.iskcon.org/sastra/f_bg.html)  
 Interact: The Institute for Interactive Management | <http://www.netreach.net/company/interact/index.html>  
 The Journal of Artificial Societies and Social Simulation homepage |  
<http://www.soc.surrey.ac.uk/JASSS/JASSS.html>  
 The Relationship Manager Software | <http://www.smart-marketing.com/relationship.html>

## Chapter 9

Centre for Working Life Research and Development (CAU) at Halmstad University, Sweden |  
[http://www.cau.hh.se/cau\\_eng/resurseng.html](http://www.cau.hh.se/cau_eng/resurseng.html)  
 Concepts and Transformation | [http://www.benjamins.com/jbp/journals/Cat/Cat\\_21.html](http://www.benjamins.com/jbp/journals/Cat/Cat_21.html)  
 Department of Operations Management and Work Organization, School of Technology Management and  
 Economics, Chalmers University of Technology, Sweden |  
<http://www.mot.chalmers.se/dep/ao/Root.htm>  
 Nursery Education Voucher Scheme | <http://www.open.gov.uk/dfee/nursery/guide/concept.htm>

## Chapter 10

Actor-Network Theory | [http://www.cudenver.edu/~mryder/itc\\_data/act\\_net.html](http://www.cudenver.edu/~mryder/itc_data/act_net.html)  
 Cybernetics and Conversation | <http://www.pangaro.com/published/cyb-and-con.html>  
 Cybernetics, Systems Theory and Complexity | <http://www.cudenver.edu/~mryder/itc/complexity.html>  
 Fifth Annual International Conference on Advances in Management, ICAM 1998 Programme |  
<http://members.aol.com/icam2000/1998prog.htm>  
 The Center for Coordination Science | <http://ccs.mit.edu/>

**N. B.** The Internet references appearing in **Appendix A** and **Appendix B** have not been listed here.

# Introduction

## 1.1 Introduction to the Topic

As outlined in the Preface to this thesis, the author became interested in exploring the available alternatives to the expert-led models of change and development. The preliminary explorations indicated a vast body of literature on the topic. Accounts of various alternatives to expert-led models of change and development in the domains of education, management development, planning, public administration, system design, etc., were located. It was possible to identify a number of organisations (some of them operating within universities or other research-oriented environments) engaged in the practice of such alternative models of change and development. A number of applied disciplines namely, applied behavioural science, development studies, management studies, policy studies, etc., seemed to recognise that such practices and a systematic discussion on these may be crucial to the development of the disciplines themselves.

Such applied disciplines are said to have emerged mainly after the Second World War with the predominant aim of using the method of science, characterised by its systematic, rational, and fact-based approach, to address practical problems of import to organisations and society. There appeared to be an increasing awareness in the literature of such applied disciplines that some fundamental change is due in the way the task of academic research is understood in these areas. The traditional understanding, i.e., research as the process of producing valid and reliable knowledge, seemed to have been strongly criticised in such applied disciplines. This in turn has challenged the idea that there could be experts with such valid and reliable knowledge who could contribute to practical improvements in the relevant domains. Various arguments for alternative forms of academic work were found to be advocated in the applied disciplines, e.g., *systems practice* (e.g., Checkland and Scholes, 1990; Jackson, 1991), *action research* (e.g., Clark, 1972; Fals Borda and Rahman, 1991), *new paradigm research* (Reason, 1988; Reason and Rowan, 1981), *reflective practice* (Schön, 1983), *mode-2 research* in the context of application (Gibbons, *et al.*, 1994), development of *relational knowledge* (Lynch, 1993), practice of *action learning* (Pedler, 1991), etc., instead of the stereotyped approach of science. It was also found that a wide variety of activities and methods, supposedly based on these and other alternatives to stereotyped science, appeared to have claimed academic status within the applied disciplines. All these activities and methods seemed to involve the notions of intervention, change, learning, development, etc., as opposed to the traditional notions of research namely, observation, explanation, prediction, control, etc.

Subsequent familiarisation with the literature and the academic debates pertaining to the above exposed the author to a general feeling of inadequacy of the methods expressed in various quarters. A number of writers have referred to the problems, difficulties, challenges, dilemmas, and controversies associated with these methods (e.g., Checkland, 1991; van der Kamp, 1996; Landry, 1995; Rapoport, 1970; Robinson, 1993; Vahl, 1996). It was found that a number of writers have also responded to the above. Responses seemed to have been varied and not necessarily convergent. While some had tried to introduce more and more considerations into specific methods to make them more comprehensive, some had tried to develop new methods altogether; there were others who had tried to develop over-riding



conceptual frameworks to bring coherence into the diversity of methods and support their judicious selection and use in practical circumstances. There was also found in the academic debates a tendency to recast the existing methods in terms of some emerging vocabulary, e.g., postmodernism, critical theory, or second-order cybernetics. Another aspect noticed in these debates was the proclivity of some authors to explore within a wider spectrum of philosophies of knowledge, e.g., pragmatism, constructivism, critical realism, anarchism, etc., for addressing the above difficulties and challenges in this field. Yet another propensity noticed was the attempt to align some methods with some cultural or political movements, e.g., various shades of feminism, environmentalism, humanism, etc.

It was realised that the general discussion about such non-traditional forms of research, despite its perplexing clutter, might be crucial for the future development of management studies as the latter is intimately linked with the notion of practical improvement through change, development, learning, etc. The author had an interest in appreciating the problems that arise when research is expected to produce practical improvements in specific domains of action and the multiple responses to these problems available in the literature. The author was mainly interested in developing a *conceptual framework* to bring together and clarify the key issues in these action-oriented adaptations of research being discussed in the applied disciplines. The author also had a desire to join in the ongoing academic discussions with the hope of making a conceptual contribution. That was the starting point for the present study.

This type of a research interest might be viewed as too broad and abstract for a doctoral thesis. However, this is in keeping with the author's inclination to come to grips with the general academic debates pertaining to research and improvement, as well as his future plans to develop new research programmes to address some of the seemingly intractable issues in social and organisational change.

## 1.2 Aim of the Study

The work undertaken in this study was inspired by the above mentioned diversity of proposals for doing research while effecting changes, or improvements, in organisational and social situations, i.e., activities generically referred to here as *action-oriented research*. The generic label 'action-oriented research' is used (although somewhat loosely) in the early part of this thesis to refer to the entire class of methods where the process of research somehow includes an action-orientation, such that the method is expected not only to generate discoveries, insights, learning, etc., but also expected to build something useful, achieve some more practical end, satisfy some client, etc.

The main aims of the study are:

- *To formulate and develop a general conceptual framework to capture some of the key features of action-oriented research;*
- *To test whether the conceptual framework can contribute positively to clarify some of the unresolved issues in the ongoing academic debates about action-oriented research; and*
- *To test whether the practical activity of action-oriented research can be enriched in some way by making use of the conceptual framework.*

### 1.3 Justification of These Aims

Research aims cannot be justified in a global or absolute sense. The aims as stated above seem reasonable from different points of view. First, from the viewpoint of a student, the diversity in the literature of intervention and change (be it in management studies or elsewhere) necessitates a search for coherence and quality. This is necessary to prevent the student from getting burdened with the preponderance of proposals and for the student to develop a critical competence with regard to appreciating what the proposals entail in terms of their possible effects. From the viewpoint of a user of intervention and change methods (consultants and clients), there is not only the need to select and use some appropriate method, but also to take care that the effects are not very divergent from what is intended. It is a fact that such intervention methods are becoming popular among corporations, development institutions, professional groups, community organisations, within contexts of design, and in specific projects and programmes. In view of this, there is a continuing need for good reviews of intervention methods in order to highlight the demands the users can make on the methods and the demands the methods can make on the users. The conceptual framework aimed for in the study is expected to provide fresh material for such a review.

From the point of view of academic researchers, there seems to be a need to explore new ways of discussing action-oriented research. Many of the present ways of characterising action-oriented research seem to order the diversity into groups (or paradigms) which are supposed to be more coherent within themselves. This does have the unintended effect of creating boundaries that restrain transfer of learning across these boundaries. Consequently, it impedes the creative search for alternative types of groupings based on different grounds for coherence. It is interesting to explore whether alternative ways of discussing the subject could be developed, or whether a special way of communicating across boundaries could be found.

Given the contemporary emphasis in management studies (and other applied disciplines) on more participatory styles of functioning, on recognising and privileging local knowledge, on learning through greater interaction and accommodation between viewpoints, etc., it seems likely that there will be in future a greater emphasis on action-oriented research in a variety of fields (see, e.g., Checkland, 1981; Checkland and Scholes, 1990; Deming, 1986; Elliott, 1991; Espejo, *et al.*, 1996; Flood and Jackson, 1991a; Gibbons, *et al.*, 1994; Jackson and Keys, 1987; Johnson and Scholes, 1997; Kanter, 1997; Schön, 1983; Senge, 1990). The topic seems to hold greater significance for societies where the more traditional methods of planning and management are facing seemingly unsolvable problems, having reached the end of their tether.

The conceptual framework aimed for in the study ought to have that degree of generality (and accessibility) for it to be useful to students, consultants, clients, as well as academic researchers concerned with the methods, effects, and the challenges of action-oriented research in a wide range of application domains. It should clarify *what* action-oriented research strives to achieve (that may not be achieved by the traditional research approach). It should also clarify *how* this is sought to be achieved. For the purpose of further academic debates, the framework should make clear what questions and issues still remain unresolved.

The aims of testing the framework are in keeping with the evidential mode of argumentation prevalent in the academic tradition. Different types of testing are to be incorporated in the

spirit of what is sometimes called *triangulation* in the language of research methodology (see, for example, Maanen, 1983, p. 135). The idea here is to put the framework to different types of challenge to assess whether it still survives as a promising contribution for the future researchers to take notice of it.

## 1.4 Structure of the Thesis

Although the topic explored in the thesis seems broad and complex, the author believes that, before long, the topic might become important for academic researchers in a number of applied disciplines. The thesis therefore follows a traditional academic structure in order to facilitate easier communication among fellow researchers in various applied disciplines.

There are ten chapters in all. **Chapter 2** elaborates on some of the methodological considerations and identifies a method for the study. Figure 2.1 presents the method in a graphical form outlining the major stages of the study. **Chapters 3, 4, and 5** constitute the literature review. They include a review of three families of literature: *the family of action research* (in Chapter 3), *the family of management systems thinking* (in Chapter 4), and *the family of more general literature on research and improvement* (in Chapter 5). Chapter 5 includes a section (Section 5.5) that outlines the key conceptual elements recovered from the entire literature review. The same section also identifies some *probes* to be used in the subsequent exploration of the practice of action-oriented research in India. **Chapter 6** describes the practice of action-oriented research in India. *Appendix B* describes the work of the 30 Indian organisations visited during the study. These organisations are engaged in activities aimed at bringing about some practical improvements apparently following some of the general features of action-oriented research. This chapter identifies a number of key conceptual elements from the study of the practice of action-oriented research (presented in Section 6.6). **Chapter 7** presents a basic conceptual framework based on the conceptual elements recovered so far (see Figure 7.1). The basic framework is further developed by introducing the integrative notion of *agency*. The final conceptual framework is presented in the form of a set of inter-related concepts labelled as the *vocabulary of agency* (see Table 7.1). **Chapters 8 and 9** attempt an assessment of this conceptual framework. Chapter 8 assesses the consequences of the conceptual framework for the current debates pertaining to action-oriented research identified earlier. The framework is found to have made a number of interesting contributions to the academic debates (see Section 8.4). Chapter 9 involves a different type of assessment in which the framework is used to reinterpret two recent action research projects. The results of this assessment indicate the potential of the framework in suggesting alternative research designs and securing practical as well as academic results from action research studies. Finally, **Chapter 10** highlights the main conclusions of the study and outlines some issues for further research. Among others, it highlights the possibility of using the framework in developing management research by drawing insights from the contemporary studies of *collective phenomena*, e.g., those relating to *self-organisation theory*, *actor-network theory*, *conversation theory*, and *co-ordination theory*.

## Methodological Considerations

*The world is full of obvious things which nobody by any chance will ever see.*  
— Attributed to ‘Sherlock Holmes’, a character created by Arthur Conan Doyle.

### 2.1 Nature of the Study

This chapter will identify and describe the method of study followed in this doctoral project, based on a discussion of some possible alternatives. To initiate the discussion, it is first necessary to characterise the nature of the study. An adequate characterisation of the nature of the study would indicate which methods might be potentially useful.

As stated in Chapter 1, the main aims of the study are the following:

- *To formulate and develop a general conceptual framework to capture some of the key features of action-oriented research;*
- *To test whether the conceptual framework can contribute positively to clarify some of the unresolved issues in the ongoing academic debates about action-oriented research; and*
- *To test whether the practical activity of action-oriented research can be enriched in some way by making use of the conceptual framework.*

The academic motivation underlying the above aims is to systematically explore whether a new conceptual coherence can be developed within the field of action-oriented research such that the current debates in that field could be conceptually assimilated, further clarified, brought to sharper focus, usefully re-directed, etc. This type of motivation compares well with what Babbie (1975, see quotations below) recognises as a very common purpose of research, especially as the present author is just beginning his study of action-oriented research and as the need for conceptualising action-oriented research seems relatively new within the discipline of management studies.

A great deal of research is done for the purpose of exploring a topic to familiarize the researcher and his subsequent audiences with it. This would be the case especially when the researcher is just beginning his studies of a given topic or when the topic itself is new (Babbie, 1975, pp. 49-50).

Babbie (1975) goes on to describe the typical purposes of such *exploratory* studies:

Exploratory studies are most typically done for three purposes: (1) simply to satisfy the researcher’s curiosity and desire for better understanding, (2) to test

the feasibility of undertaking a more careful study, and (3) to develop the methods to be employed in a more careful study (Babbie, 1975, p. 50).

Although all the three purposes mentioned in the above quotation appear to be relevant to the present study, the author would not like to emphasise the first one, i.e., satisfaction of the researcher's own curiosity and desire for a better understanding of the topic. This purpose will not be emphasised simply because the general reader of this doctoral thesis cannot have an easy access to the author's mental and emotional states before and after the study to assess whether the purpose has been fulfilled.

The other two purposes mentioned in the above quotation can be sharpened by providing an interpretation of the notion of 'a more careful study' used by Babbie. An examination of the aims of the present study implies the author's own notion of what a more careful study of action-oriented research might involve, i.e., the construction, development, and some systematic testing of a *conceptual framework*.

This direction is consistent with what some other authors have said about exploratory studies as well. Krishnaswami (1993, pp. 41ff) views exploratory studies as *formulative* in nature which can have the following purposes: generation of new ideas and concepts, precise formulation of the topic being dealt with, clarification of concepts by gathering appropriate information, etc. Frankfort-Nachmias and Nachmias (1996, p. 28) highlight the crucial role of *concept formation* in research. They have identified four distinct roles new concepts play in research: (i) new concepts, when accepted in a research community, provide a common language and enable researchers to communicate with each other, (ii) they give researchers a new way of looking at a topic, (iii) they allow researchers to classify their experience and generalise from those, and (iv) they provide the components for developing new theories or theoretical systems.

Given the unstructured nature of the broad task of this study, it is worth reflecting how such a task might be accomplished. Some guidance is available in the literature of research. Babbie (1975) advises that when the research situation is too unstructured, a researcher can choose from among a number of methods to begin the inquiry: (i) find out whether some other researchers have examined this field, (ii) examine various real-life manifestations of the topic, (iii) conduct some detailed study of some of these, (iv) conduct unstructured interviews with some informants, and (v) design a formal (structured) study of some aspect of the original topic.

*In conclusion, the present study is clearly exploratory (or formulative) in nature. It seeks to develop a conceptual framework which should function as a generic account of action-oriented research in many applied domains. The study can make use of the existing academic debates about action-oriented research and/or the experience of contemporary practice in this field. The study may also use some other sources of information to build and develop the framework. The conceptual framework will have to be put to a set of systematic (or formal) tests as envisaged in the aims of the study.*

The following section will discuss some methodological and practical issues in order to progressively narrow down and finally spell out a method for conducting the study. Obviously a number of choices have to be made in doing this. The implications of making these choices will also be discussed.

## 2.2 Methodological Choices

### 2.2.1 *Theory-then-research vs. Research-then-theory*

In view of the nature of the study as described in the section above, an initial choice arises as to whether the study should start with some existing conceptual (or theoretical or even meta-theoretical) position and refine it further through a process of research or whether the study should remain *relatively* free from the existing conceptual (or theoretical or even meta-theoretical) positions seeking to formulate/develop its own in the process of research. Frankfort-Nachmias and Nachmias (1996, pp. 46ff) have labelled these options in a rather appealing way: (i) *theory-then-research strategy* (of which Karl Popper is said to be an advocate) and (ii) *research-then-theory strategy* (of which Robert Merton is said to be an advocate). In the first strategy, research is directed purely at verifying and testing the propositions of a theory. In the second strategy, research plays a more active role in the construction of a theory (which may be at a relatively low or high level of abstraction). Although both the strategies can be employed within a larger *research programme*, it seems a choice is required to be made between the two strategies within a relatively short and time-bound project like the present one.

The nature and the aims of the study seem to suggest a research-then-theory strategy. If the conceptual framework to be developed in the study has to overcome the weaknesses of the presently available conceptualisations of action-oriented research, then it is not clear how the theory-then-research strategy can be used for this purpose without perpetuating the ongoing differences, controversies, dilemmas, etc., unless of course the starting theory is produced through some purely creative intuition so that it overcomes the above difficulty. On the other hand, a research-then-theory strategy allows the researcher to consider a number of facts and arguments before producing a theory (in this case, a conceptual framework). It seems, given the present complexion of the study, this strategy is more supportive towards the researcher than the one that requires a theory at the very beginning. Therefore, the research-then-theory strategy will be chosen for the present study.

The implications of following the above strategy need to be spelled out. First, the strategy allows the researcher to suspend theorisation in the initial part of the study. Consequently, it also implies that the initial part of the study (up to the identification of the conceptual framework) cannot benefit from the clarity and structuredness that comes from adopting a clear theoretical perspective. This indicates that there must be some other source of clarity and structuredness to prevent the study from going astray. There can be various candidates to provide this clarity and structuredness namely, particular philosophical/methodological inclinations, available background knowledge/experience, various practical and contingent factors such as convenience, etc. In the present study all these factors seem to have an important role in guiding the course of the study.

### 2.2.2 *Structuring the Initial Part*

The reader may recognise a similarity between what is labelled above as a research-then-theory strategy with a range of research perspectives broadly classed as *qualitative inquiry* (or qualitative research) (Cassell and Symon, 1994; Denzin and Lincoln, 1994; Easterby-Smith, *et al.*, 1991; Glaser and Strauss, 1967; Lincoln and Guba, 1985; Van Maanen, 1983; also see Welcome to QualPage at <http://www.ualberta.ca/~jrnorris/qual.html>). There are

various ideas and guidelines in this literature about how to structure a research study that does not start with a pre-conceptualised theoretical position.

These ideas and guidelines generally invite the researcher to be open-minded and refrain from imposing *a priori* classifications on the research material being collected, to look for deeper patterns rather than the surface phenomena, etc. A number of methodological (and philosophical) perspectives are available in this area to guide researchers, each with its distinctive slant on what is sought to be achieved through such qualitative research and how to improve the chances of achieving it. These methodological perspectives include: Ethnographic research (Sanday, 1983), Grounded theory approach (Glaser and Strauss, 1967), Heuristic research (Moustakas, 1990), Intervention research (Fryer and Feather, 1994), Naturalistic inquiry (Lincoln and Guba, 1985), etc.

The author chose not to use the perspectives of heuristic research and intervention research. Heuristic research addresses a researcher's personal challenge and puzzlement in the search to understand one's own self and the world(s) in which one lives (Moustakas, 1990, p. 15). This research perspective makes use of the notion of an 'internal frame of reference' (*ibid.*, p. 26). The process is usually autobiographic but may have social and perhaps universal significance.

There were two main reasons why this perspective was not chosen for the present task. First, the stated aims of the study are not consistent with the notion of an internal frame of reference. The conceptual framework expected out of the study should not be purely internal; it should be in a domain that allows some type of discussion and testing by other researchers even long after the present author dies, for instance. Second, in view of the fact that the present study is being conducted as part of a doctoral programme, the task of the research supervisors and the other evaluators is made simpler if the thesis is less autobiographic and more factual, logical, analytical, etc.

Of course, the implications of not choosing the heuristic perspective should be acknowledged. The main implication is that the entire study will underplay the author's own life-world. This is not to say that the author's own life-world will have no effect on how the study progresses. Therefore, if a reader of the thesis becomes interested in finding out about the life-world (or phenomenal world) of the author, such a reader is likely to find not much illumination in the thesis.

The perspective of intervention research was not chosen either. This perspective is similar to some of those available in the field of action-oriented research which constitutes the topic of the present study itself. Therefore, adopting the interventionist approach to study action-oriented research would unduly restrict the potential of the study to overcome the conceptual barriers (or blind spots) that might exist in this field and restrict the potential to develop new ideas about the topic. In doing this, the study might seem to transgress the dictum that 'the world can only be grasped by action, not by contemplation' (attributed to J. Bronowski).

However, the study would not relinquish action altogether, only relinquish the perspective of intervention research. It ought to be recognised that some suitably designed interventions at a later stage (i.e., after the completion of the present study) may provide the opportunity for further improving the conceptual framework expected out of this study. That leaves the methodological perspectives of ethnographic research, grounded theory approach, naturalistic inquiry, and other comparable perspectives from within the fold of qualitative research, to be

considered for structuring the initial part of the study (i.e., the development of the conceptual framework). Some key elements from these perspectives are now described.

It is one of the characteristics of qualitative research to maintain a degree of conceptual and theoretical openness at the start of a study. This requires the initial topic to be defined in very broad terms even allowing a degree of imprecision in their definitions. The topic of action-oriented research, chosen for study here, seems to have been so defined. The notions of action, action-orientation, research, etc., have not been defined in a very precise (or formal) way. If this spirit is to be maintained throughout the study, then the method ought to allow the collection of various research material (e.g., facts, experiences, reports, arguments, and thoughts) from a wide variety of sources without being biased by disciplines, paradigms, theoretical systems, etc. Only practical considerations might introduce some restriction. This indicates that, before the conceptual framework is developed, there should be a *wide* review of the literature pertaining to action-oriented research and a *wide* exploration of practice in this field. Neither the literature review nor the exploration of the practice ought to be limited by disciplines, domains, etc.

However, practically speaking, this study is part of a doctoral programme in Systems Thinking/Management Studies. Therefore, the thinking and the practice of action-oriented research explored here should be relevant to the doctoral programme area. This does not seem to be a serious restriction. Action-oriented research within e.g., agricultural extension, community development, education, environmental studies, information systems, innovation studies, organisational development, public health, self-development, social policy, urban planning, etc., can still be subsumed under the scope. For the ease of the literature review, it will be necessary to identify some broad families of literature that would cover the topic in the required breadth and depth.

Based on the available background knowledge, three general families may be identified for this purpose: (i) *action research*, (ii) *management systems thinking*, and (iii) *research and improvement of action*. These three families of literature seem to represent a sufficiently broad spectrum of conceptual and theoretical positions as required by the qualitative research perspective. The only drawback seems to be the potential burden in terms of time and resources this would make on the study. However, instead of dropping any of the above families altogether, it might be more prudent to set practical limits to the amount of literature that can be reviewed within each family.

Both naturalistic inquiry and the grounded theory approach highlight the importance of 'grounding' whatever conceptualisations a researcher produces in the practices of a relevant community. This requires the study to pay attention to how action-oriented research is being practised in various applied domains apart from how it is being discussed in the literature. The author's past experience and knowledge suggests that activities akin to action-oriented research could be found all-over the world, albeit not always labelled as such. The literature review itself might indicate a selection of the type of practice that is worth exploring further.

However, it still seems necessary to introduce a practical restriction at this stage, that is to explore the contemporary practice of action-oriented research only in India, simply because it seems convenient to do so. Notwithstanding the potential diversity of such work in India, it is possible that such a restriction in method might have an influence on the results of the study. It is possible that action-oriented research in a different part of the world (and at a different point in time) might have some distinctive features that could go unnoticed in this study.



The next major issue to be decided about the method of study pertains to the actual method of exploration to be used in India. Three types of method are suggested by the qualitative research literature: (i) interviews, (ii) participant observation/ethnography, and (iii) document analysis (Cassell and Symon, 1994, p. 10; Denzin and Lincoln, 1994; Easterby-Smith, *et al.*, 1991). Although participant observation (or even extended participant observation, i.e., ethnography) promises to provide crucial information about a process, a community, or a domain of action, it will not be selected for the present study. There are two main reasons for this choice. First, the action-oriented research field is not yet so defined as to demarcate a definite process, community, or domain of action. In fact such a demarcation may be possible only after the study, if the conceptual framework produced in the study allows it. Therefore, the study will have to include a variety of processes, communities, and domains of action at the outset.

This implies that the practical constraint of time and resource will not permit such techniques as participant observation or ethnography, especially if the exploration in India has to cover a sufficiently wide range of activities and practices as required by the research perspective being adopted here. Therefore, the choices get narrowed down to interviews and document analysis to explore the practice of action-oriented research in India. The main purpose of this exploration will be to gather descriptions of how the practice combining an action-interest with a research interest is viewed/interpreted by the practitioners, the nature and scope of this type of work as visualised by them, the range of opportunities and challenges identified by them, the type of conceptual vocabulary being used by them to refer to their work, etc.

The next major task in the study would be to combine elements from the literature and the practice of action-oriented research to synthesise a conceptual framework. It will strongly depend on the researcher's ability to assimilate and synthesise whatever descriptions and arguments have been collected by this stage in the study and articulate the same in an abstract and comprehensive way. This process can benefit from any logical, philosophical, or research literature that may be suitably identified at this stage in the study.

### ***2.2.3 Testing of the Conceptual Framework***

The aims of the study indicate two kinds of testing. First, the conceptual framework has to be tested to demonstrate whether it can contribute positively to clarify some of the unresolved issues in the ongoing academic debates about action-oriented research. This kind of testing has to depend on a critical discussion about the unresolved issues identified in the literature in the light of the new conceptual framework to be developed in the study. If the discussion points towards a resolution of these issues then the conceptual framework would have made a clear contribution. If the discussion points towards not a resolution but a reformulation of these issues even then the conceptual framework can be said to have made a contribution provided the reformulation indicates new insights, new domains of inquiry, new tools of inquiry, new research programmes, etc.

Second, the conceptual framework has also to be tested to demonstrate whether it can contribute positively to enrich in some way the practical activity of action-oriented research. There is an issue of identifying a suitable method (or research design) for this type of testing. As Yin (1984, p. 29) remarks: '... a research design deals with a *logical* problem and not a *logistical* problem' (*italics* in the original).

It is necessary to first clarify the logic of the testing. Although the testing being contemplated here is part of an overall exploratory study, there still seems to be a need to clarify the *purpose* of the testing and the *criteria* by which the test will be judged successful or otherwise. The main purposes can be articulated as the following: (i) to explore whether the conceptual model to be developed in the present study can actually help in the design and the implementation of practical projects conceived within the broad field of action-oriented research; (ii) to explore whether the conceptual framework equips a practical project with a greater potential to produce action-oriented and research-oriented outcomes; and (iii) to explore whether the conceptual framework provides a high degree of methodological support to a project to enable it to proceed in a systematic and directed fashion despite the usual disturbances that arise from a field of action.

Clearly, all the purposes cannot be fulfilled in some straightforward manner. Even if an entire practical project is conceived, designed, and implemented successfully using the conceptual framework, doubts will still remain as to whether the framework would have worked as well had the context been somewhat different. Even if ten such practical projects are conducted, the same doubts will remain, although the experience of the ten projects would have enriched the framework, and perhaps, moderated its claims.

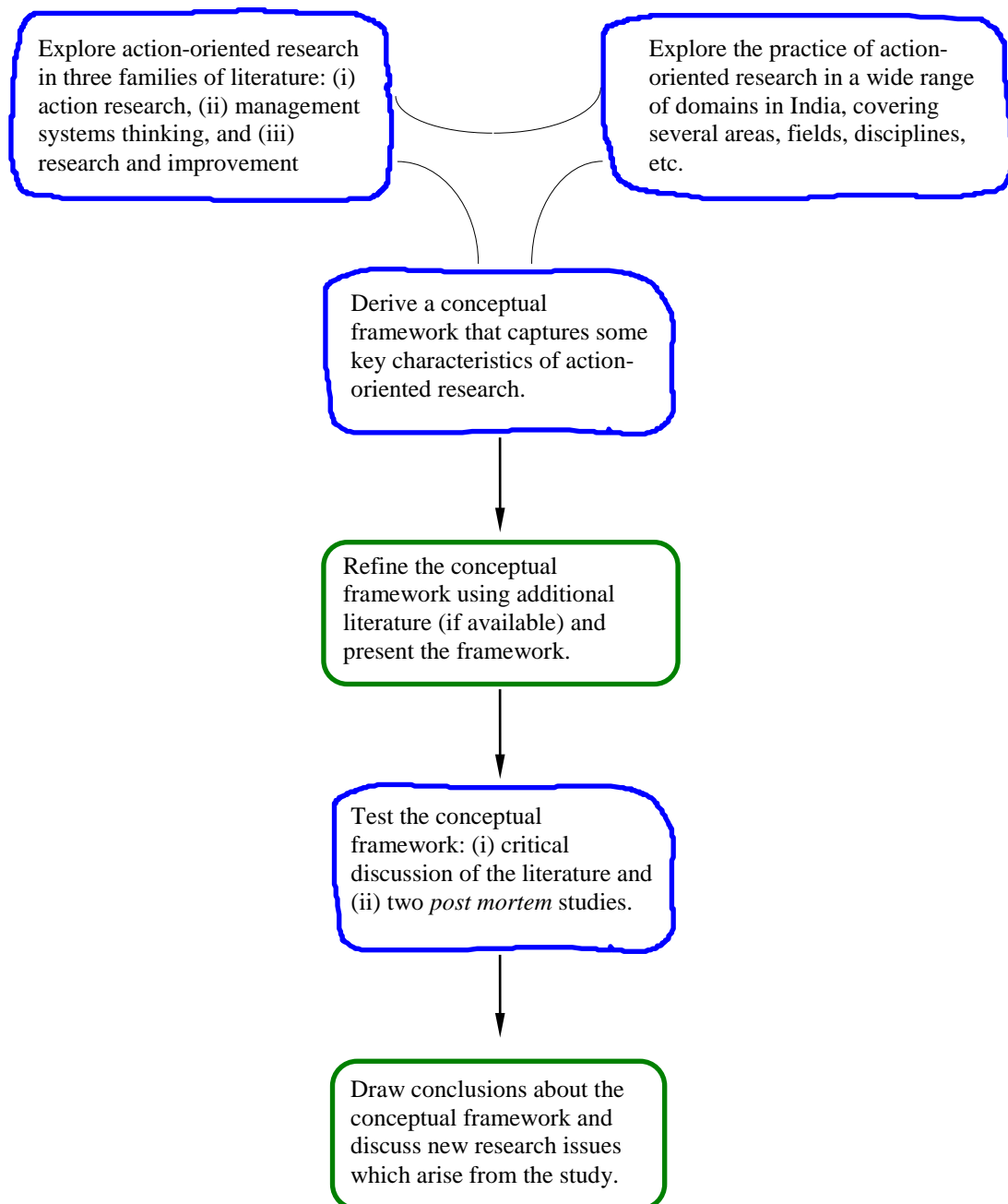
Given the practical constraints of the present doctoral programme, a full-scale practical project using the expected conceptual framework is ruled out. A second option might be to do what are sometimes called *post mortem* studies. In such studies a research project that has already been completed is re-interpreted and critically discussed from a new conceptual standpoint. The aim is usually to throw new light on the successes and the failures of the project, identify alternative directions the project might have taken, reflect on the possible contributions the project could have made, etc. This seems feasible to do within the constraints of the present study. Ideally speaking, more than one such *post mortem* study should be carried out to arrive at conclusions that are not too contextual or domain-specific.

It will now be possible to outline the method of the study. The method will be presented graphically and descriptively in as much detail as necessary to equip the reader. However, it is not possible to describe the method exhaustively in the case of an exploratory and formulative study. Occasional deviations may have to be made in order to make the best use of the opportunities that may arise during the study. However, an attempt will be made by the author to adhere to the described method unless there is a strong reason to digress from it. Besides, if and when such digressions become necessary, these will be explicitly mentioned and the rationale explained.

## **2.3 Method of Study**

### **2.3.1 Graphical Presentation**

In Figure 2.1, the irregular boxes indicate the exploratory nature of the activity. The regular boxes indicate a higher degree of precision and specification of the ideas emerging at that stage. The arrows indicate a flow of ideas, arguments, and other information between the stages.



**Figure 2.1 Method of Study**

### **2.3.2 Detailed Description**

#### *Exploration of the Literature*

A wide range of action-oriented research approaches seeking to effect some type of practical improvement while also seeking to extend some type of learning are found abundantly in two families of literature: *action research* and *management systems thinking*. The diversity within this literature is quite high and perplexing to warrant a detailed review. The need to study

action research and systems thinking together has been expressed by many authors (e.g., Checkland 1991; Flood, 1998; Levin, 1994; Wilby, 1996).

The family of action research literature can be identified by following the books by Argyris and Schön (1974; 1996), Boog, *et al.* (1996), Clark (1972), Fals Borda and Rahman (1991), Reason (1988), McNiff (1988), Pedler (1991), Whyte (1991b), Winter (1987; 1989), and the special issues of the journals *Human Relations* (Volume 46, Number 2, 1993) and *Systems Practice* (Volume 9, Numbers 1 and 2, 1996). The following web sites on the Internet can also be used: <http://www.parnet.org/> and <http://www.scu.edu.au/schools/sawd/ari/ar.html> (both related to action research). Participation in Internet-based discussion groups on action research (ARLIST and ARMNET) can help in gaining an understanding of some of the key issues being debated among action researchers.

The family of management systems thinking literature can be identified by following the books by Ackoff (1981), Beer (1979), Checkland (1981), Checkland and Scholes (1990), Churchman (1979), Emery (1981b), Flood and Jackson (1991a; 1991b), Jackson (1991), Jackson and Keys (1987), Keys (1991), Rosenhead (1989), Ulrich (1983), and issues of the *Journal of Applied Systems Analysis*, *Systems Practice* (now renamed as *Systemic Practice and Action Research*), *Systems Research* (now renamed as *Systems Research and Behavioral Science*), and *Journal of the Operational Research Society*. The following site on the Internet can also be used as a helpful reference point to explore this area: <http://pespmc1.vub.ac.be/CYBSYSTH.html> (on systems and cybernetics in general).

A third family of literature to be reviewed is the more general literature about research and improvement. Works of Althusser and Balibar (1970), Bateson (1979), Geertz (1983), Gibbons, *et al.* (1994), Gross, *et al.* (1996), Guba (1990), Lakatos and Musgrave (1970), Latour (1987), Popper (1979), Rorty (1980; 1982), Sayer (1992), and Silverman (1970) can be useful in getting started on this exploration. The following web sites on the Internet can also be helpful: <http://www.usask.ca/hru/criticalrealism/> (on critical realism) and <http://www.informatik.umu.se/~rwhit/AT.html> (on autopoiesis). Participation in the Internet-based discussion group on socio-cybernetics (SOCIOCYBERNET) can help in gaining an understanding of some of the recent discussions among academic researchers in this area especially on the ways research might contribute towards improvement.

*Since the literature to be covered in this review is quite extensive, there is a need for a strategy to carry it out successfully. The strategy will be to identify the broad arguments and proposals in these families of literature about how an action-orientation (i.e., the aim of practical improvements in some domain of action) and a research-orientation (i.e., the aim of producing learning, knowledge, and other such competence which can enjoy a degree of independence from the specific domains of action) can be effectively combined. These general arguments and proposals will be treated as the basic elements from which the proposed conceptual framework can be built at a later stage in the study.*

### *Exploration of Practice*

This stage in the method requires a number of organisations and groups to be identified in India who are engaged in activities which have the flavour of action-oriented research. The preceeding literature review should help in identifying some characteristics features of action-oriented research. As described earlier, the choice of the practice organisations cannot be limited by disciplines, sectors, etc. The option of engaging in intervention research,

participant observation, or ethnographic studies has been foregone in the interest of exploring variety. It has been argued earlier that this is in tune with the nature of the study. The required information will be collected through unstructured and semi-structured interviews and other forms of interaction such as formal seminars, group discussions, informal conversations, e-mail interactions, etc. The opportunity for analysing some primary and secondary literature pertaining to their activities should also be explored. The questions to be asked in the unstructured and semi-structured interviews and the issues to be discussed in the other forms of interaction cannot be specified very precisely at this stage as these will depend on the results of the literature review. However, some indicative directions have been developed in the methodological discussions earlier (Subsection 2.2.2).

*The main purpose of this exploration of practice will be to gather descriptions of how the aim of combining an action-interest with a research-interest is viewed/interpreted by the practitioners, the nature and scope of this type of work as visualised by them, the range of opportunities and challenges identified by them, the type of conceptual vocabulary being used by them to refer to their work, etc. These general inputs will also be treated as the elements (in addition to the ones obtained from the literature review) from which the proposed conceptual framework can be built at the next stage in the study.*

#### *Deriving and Refining a Conceptual Framework*

This stage is less guided by method and more guided by the author's ability to synthesise the results of the two earlier stages. However, some of the features expected of the conceptual framework have been stated and discussed in the preceding methodological discussions. One of the main features is that the framework should not be an 'internal frame of reference', but have the potential to be communicated to other interested researchers and be discussed and revised by them in the light of new experiences and arguments. The other features expected of the conceptual framework are: a level of abstraction which can subsume a wide range of action-oriented research thinking and practice, a degree of relatedness to the doctoral programme area (i.e., systems thinking and management studies), a degree of novelty with respect to how the topic has been discussed in the literature so far, etc. It may be possible to identify and make use of some logical, philosophical, or research literature at this stage that can be used for articulating and refining the conceptual framework.

#### *Testing the Conceptual Framework*

As discussed earlier, the testing will consist of two parts: (i) testing against the literature and (ii) testing through some *post mortem* studies. The *logic* of this stage in the method, the *purposes* of such testing, and the *criteria* for assessing the results of the test have been discussed earlier in Subsection 2.2.3. As discussed in that Subsection, it will be preferable to conduct more than one such *post mortem* study.

#### *Drawing Conclusions and Discussion New Research Issues*

In this last stage of the study, it will be required to draw precise conclusions about the conceptual framework and discuss whether (and in what sense) it might be considered as a new contribution to the field of action-oriented research or even the field of knowledge demarcated by the doctoral programme area, i.e., systems thinking and management studies. It will also be proper to describe new research issues or problems that emerge from the current study. If the conclusions of the study indicate clear directions for pursuing these new

research issues and problems then a programme of further study may be conceived at this stage.

## Family of Action Research Literature

### 3.1 Introduction to the Review

The overall purpose of the literature review (in Chapters 3, 4, and 5) is to identify some key features of action-oriented research which might contribute to the construction of a conceptual framework to guide such research in a variety of application domains. This will involve a study of the complicated interplay between research and action usually involved in addressing organisational and social problems as discussed in three different families of literature.

As indicated earlier, the present chapter will review the family of literature that has developed around the notion of *action research* in a variety of disciplines. Aspects to be covered in the review are: background of action research, the emerging variety and growth of action research, issues concerning its method, the status and quality of action research outcomes, academic debate concerning the problems and prospects of action research, etc. The main focus of the review will be on exploring the ways in which the interplay between research and action are conceptualised in this family of literature.

Action research approaches have been advocated in a wide variety of domains, e.g., agricultural development, appropriate technology development, community development, educational reform, environmental management, organisational change and development, participatory development, public health, self-development, urban planning, etc. A number of applied disciplines criss-cross in these domains. The action research perspective has emerged in most of these applied disciplines, suggesting a large body of literature on action research. Some commentators appear to regard action research as an emerging profession necessitating its own *handbook* (e.g., Stringer, 1996).

### 3.2 Background of Action Research

The term *action research* has been in use in academic literature at least since the late 1940s (Lewin, 1946, 1947; Chein, *et al.*, 1948; Blum, 1955). However, similar or equivalent terms (e.g., action method, deep action method, interaction research, role research, and drama research—where ‘drama’ is used in the original Greek sense to mean action) seem to have been used in the early 1940s and even before, especially relating to the work of J. L. Moreno in group psychotherapy since the first World War, i.e., 1914-1918 (Gazda, *et al.*, 1997; Moreno, 1937a; 1937b; 1943).

Subsequent literature shows that the idea of action research (or action-oriented research) has evolved since then by the force of at least two prime movers. On the one hand, there was an academic movement in the social sciences to break out of the then established modes of inquiry; on the other hand, there was also an increasing demand on academic research to be more useful in improving practical affairs. The following paragraphs explore these prime movers in different areas of study.

### 3.2.1 Study of Human Relations

In this area, the names of two contemporaries, J. L. Moreno (1889-1974) and K. Lewin (1890-1947), can be closely linked with the idea of action research. Although the term action research is usually attributed to K. Lewin, the methodological contributions of J. L. Moreno appear to be significant enough to require further investigation. J. L. Moreno is said to be the originator of the methods and the principles of group psychotherapy, sociometry, psychodrama, and sociodrama (see The American Society of Group Psychotherapy and Psychodrama page at <http://www.asgpp.org>). He also endeavored to develop a research field called *sociatry* (perhaps coined after psychiatry) which went through various re-definitions to emerge as a broad area of research interested in *action-oriented interventions* for group and inter-group therapy, training of social skills, and education (Gazda, *et al.*, 1997). Elements of Moreno's methodological thinking can be gleaned from the types of research problem he was dealing with.

One of the key problems discussed by J. L. Moreno is the professionally prescribed pattern of interaction in those days between a psychiatrist and a patient especially as this became a barrier in dealing with certain types of mental disorder. He sought to deal with this problem by identifying the conditions which create *spontaneous actors* in the treatment situation. His approach involved the dramatic presentation of individuals' psychological situations to one another who are involved in some conflicting/disharmonious relationship (sometimes through the help of 'go betweens' or 'auxiliary egos', i.e., actors who can identify with the feelings and the psychological situation of a person and re-present these in a role playing situation). This was the approach of *psychodrama* (Moreno, 1937a). The aim of such an approach was to help the individuals concerned develop an appreciation of their own psychological situations as well as those of the relevant others. The psychodramatic method sought to achieve such appreciation through a process of *inter-personal catharsis*.

Another problem discussed by J. L. Moreno is the persistent inter-cultural conflicts of his times, especially among the indigenous, black, and white communities in the United States of America. He sought to deal with this problem by first identifying the *cultural roles* which are construed differently in these different communities. His approach involved the re-enactment of conflicting/disharmonious situations (again through the help of 'go betweens' or 'auxiliary egos', i.e., in this case actors who can help in dramatising some of the cultural roles involved in the situation) in which the spectators could also participate as *spontaneous actors*. This was the approach of *sociodrama* (Moreno, 1943). The aim of such an approach was to help people overcome the psychological rigidities imposed on them by their cultures. The sociodramatic method sought to achieve this result through a process of *collective catharsis*. Moreno emphasised that the problems of inter-group relations which remain unsolvable by conventional means (e.g., news reporting, other forms of reporting, political mobilisation, religious advice, etc.) can be approached fruitfully through the sociodramatic method.

J. L. Moreno's research thinking involves the notion of the *psychological geography of human society*, also referred to as the *social structure* in his writings (Moreno, 1937b). He attempted to formalise his research thinking in various ways, one of which is captured by the methodological formulation of *sociometry*. In this formulation, the researcher has to identify the *structure* of a social context by disclosing the affinities, attractions, and repulsions, operating between persons, and between persons and objects. The test of the quality of such findings was formulated in terms of therapeutic applications aiming to help individuals and



groups to achieve better adjustment. One of the methodological issues discussed by Moreno pertains to the status of the scientific observer in the sociometric approach. He reformulates the role of the observer as that of an *auxiliary ego*:

... we cannot gain a full knowledge [of the social structure] unless every individual participates *spontaneously* in uncovering these relationships ... The problem is how to elicit from every man his spontaneous participation. This participation would produce ... a psychological geography of human society. Sociometry has endeavored to gain such participation by applying as a fundamental part of the procedure an important aspect of the actual social situation confronting the people of the community at the moment. This was made possible by broadening and changing the status of the participant observer and researcher so as to make him an auxiliary ego of that individual and all other individuals of the community; that is, one who identifies himself as far as possible with each individual's aims and tries to aid him in their realization (Moreno, 1937b, emphasis in the original).

Moreno does not discard the importance of the traditional approach in group research which involved the study of group formation from the *outside*. However, his methodological ingenuity seems to lie in his conceptualisation of a type of study from the *inside*. He visualised sociometry as a research approach that can usefully combine the results obtained from both types of study, i.e., study from the *outside* and that from the *inside*.

Attention can now be turned to the work of K. Lewin who is considered to be another leading contributor to the study of human relations. A recent summary of Lewin's research perspective is presented by Bargal, *et al.* (1992). Lewin is generally credited to be one among the pioneers to have conducted a systematic analysis of the relative contributions of personality and social environment to human behaviour (see the Kurt Lewin Institute Homepage at <http://www.psy.vu.nl/kli/> and Personality and Consciousness pages at <http://www.wynja.com/personality/theorists.html>). A psychologist by education, Lewin's primary focus was initially on individual behaviour. But, after his emigration from Germany to the United States of America in 1933, he is said to have recognised the importance of groups in influencing the attitude and behaviour of individual members. Some of the social engineering projects he participated in, such as the one sponsored by the National Research Council, USA, to help change the food habits of American families, made him more aware of the importance of groups in influencing individual behaviour. Lewin soon found himself involved in several such projects involving behaviour-change, sponsored by governmental bodies, political parties, business organisations, social service groups, schools, etc. In all these projects, the importance of group processes in changing individuals was asserted again and again. Lewin was interested in concentrating his intellectual effort on social and organisational situations requiring change. He found his experience with group discussion methods and his understanding of group dynamics handy in contributing in such situations. For Lewin, the primary value of group research involved the solution of social and organisational problems besides the resolution of theoretical issues (Moreland, 1996).

There seems to be a need to review Lewin's contributions to the methodological debates of his times. He had argued about a possible transition from an Aristotelian to a Galileian way of thinking in biology and psychology (Lewin, 1931). For the domains of his interest, this implied a transition to *field theoretical* (situational, relational) notions (Galli, 1997). Shifting the focus of analysis from the individual *per se* to the situatedness and the relatedness of the

individual, thus drawing attention to group dynamics, leadership, etc., was considered to be a methodological contribution (Moreland, 1996).

Lewin's own writings (e.g., Lewin, 1946; 1947; Lewin and Lippit, 1938) indicate that his notion of useful research was concerned with social management or social engineering as the task. He believed that some form of 'basic social research' will be useful for this purpose. He wrote, '[T]he objective is to understand the laws which govern the nature of the phenomena under study, in our case the nature of group life' (Lewin, 1947, p-151). He was relying on the conduct of experiments to yield these laws. He emphasised the notions of objectivity, validity, and reliability, in this type of research. A possible methodological confusion was pointed out by Blum (1955) in his philosophical comment on the Lewinian research perspective. Blum pointed out that the classical notions of 'law' used by Lewin was not harmonious with the complex role the researcher plays in an experimental situation involving human groups.

After Lewin, a group of psychology-oriented researchers in the United States of America carried out a number of experiments in industry during the late 1940s and 1950s following the Lewinian spirit of 'useful research'. Some of them are D. Katz, R.L. Kahn, N.C. Morse, N. Maccoby, and later, R. Likert (Warmington, 1980).

In the types of work cited above, one finds a research interest in uncovering some deep patterns (e.g., psychological geography of human society, the nature of group life, etc.) so as to be able to put such knowledge to some therapeutic or social engineering use. Both Moreno and Lewin have emphasised the need for the researcher to become more active than the traditional research thinking would allow, at least for the purpose of making some aspects of the deep patterns visible so that theories about the patterns might be tested. However, both the contributors have also highlighted the importance of testing such theories in practical situations requiring behaviour-change, conflict resolution, social management, etc.

*A type of research-orientation is involved in seeking to uncover some deep patterns. Some deep patterns become visible when people are made to act spontaneously or made part of a group. In order to uncover these patterns, the researcher may have to first actively support people to become (and remain, at least for a while) spontaneous actors or become (and remain) members of a group; this may be a type of action-orientation within research. Another type of action-orientation pertains to the use of the objective knowledge about such deep patterns.*

### **3.2.2 Study of Society and Organisations**

Nowhere was the difficulty of observation from the *outside* more pronounced than in the study of society and organisations especially as the researcher could not really stand outside of these in practice. Commentators on the *method* of social science had noted the difficulty of doing science in the social realm if doing science implied merely *observing* and *theorising*. Human beings use various principles and notions in carrying out actions, which are not observable in the classical sense. One may try to understand those principles and notions by taking part in the activity together with the other people involved in it (e.g., Winch, 1956). This gave rise to the notion of *participatory research*, i.e., the idea of involving the members of a social unit studied in 'gathering and interpreting data'. The sociologist W. F. Whyte has mentioned that his own work during the early 1940s was participatory in this sense (Whyte, 1991b, p. 9).

Researchers in sociology and social anthropology have been using this type of participation for a long time. But, these ventures in participatory research did not have any explicit action objective. Explicit action objectives, e.g., the solution of practical problems, became associated with the term *applied research* in a broad range of literature in social and organisational studies (e.g., Clark, 1972, p. 18). The term implied that knowledge/insights already available in social and behavioural sciences could be used deductively by an ‘expert’ to deal with the problem(s) of a sponsoring organisation.

In the field of social research, sometimes the notion of *operational research* was used instead of *applied research* to highlight the research issues involved in studies aiming at the solution of particular problems (Florence, 1950, p. 237). The notion of operational research was of course borrowed from management scientists working on the problems of industrial productivity, where it meant ‘the use of the scientific method to provide executives with an analytical and objective basis for decisions’ (Committee on Industrial Productivity, 1949). (More about operational research in Chapter 4, as it is usually considered a part of management systems thinking today.) It was recognised in social research that the *operational* situation was characterised by a need to *do something*, so that the researcher was not *free* to generate knowledge as (s)he pleased. The situation was thought to be characterised by aspects that can be changed and aspects that cannot be changed implying constraints for research (Florence, 1950). These ideas imply a research thinking which endorses a more direct involvement of the researcher in the context where the research is taking place.

The debate about possible alternative modes of inquiry has been quite intense in the area of sociology. This can be seen in the literature pertaining to the distinction between *structure* and *agency*. The perspectives that view social structures either as part of a ‘natural order’ or as fully determining how people will act, have been criticised within sociology (e.g., Poggi, 1965). An *action* or *interaction* perspective has been suggested to complement it (e.g., Bendix, 1963, see Reinhard Bendix at <http://globetrotter.berkeley.edu/faculty/Bendixbio.html>; Parsons, 1964; 1977; 1978; Ryan, 1965; Whyte, 1959, pp. 40-41). According to this perspective, the sociological concern with the structure of social situations ought to be linked with a concern with the range of action alternatives open in each situation, as well as the course of action and interaction actually engaged in. This criticism drew attention to *agency*. (Please note that the notion of *agency* developed later in this thesis is somewhat different from this notion as will be clarified in Chapter 7.) The spirit of this criticism seems to be at the root of the action-orientation of research within the social sciences.

Before the above distinctions emerged, commentators on the *method* of social science had noted the difficulty of doing research in the social realm if research has to produce *theories* based on *observations* alone. It was noted that human beings use various principles and notions in carrying out actions, which are not observable in the classical sense. The solution proposed was to understand those principles and notions by taking part in the activity together with the other people involved in it (e.g., Winch, 1956). This type of adaptation anticipated a role for *participant observation* within the process of research.

A perspective of action-oriented research in social and organisational studies in the United Kingdom is usually linked with the name of the Tavistock Institute of Human Relations (web address <http://www.tavistock.org/>). Through this Institute, in the 1950s and 1960s, groups of social scientists with different backgrounds became involved in trying to find ways of

contributing towards some of the pressing social problems of wartime with the aim of simultaneously contributing to the advancement of knowledge. The Tavistock members usually speak of themselves as ‘consultants’, but the Institute has played an important role in the development of organisational studies. (The term *socio-technical systems thinking* is used to refer to some of their contributions, which will be discussed in Chapter 4.) The term action research came to be used by the people from the Institute in the late 1960s (Warmington, 1980). However, in using distinctions such as ‘research in the social sciences’ and ‘professional practice’, the Institute seems to live with the sort of methodological quandary evinced by Kurt Lewin and pointed out by Blum (1955). The journal *Human Relations*, owned and edited by the Institute has reported extensively on the types of thinking fostered at the Institute. It is not clear whether a new model for linking research and action has emerged through the work of the Institute, distinctly different from the more conventional one that strives to keep the two separate, although mutually enriching.

*A type of research-orientation is implied in seeking to describe the structures of action or interaction among people in social or organisational situations. These are quite difficult to study from the outside as many elements of the same are not observable through the traditional research methods. Some form of participation is required; this may be a type of action-orientation within research. However, there may be another type of action-orientation in seeking to actively change the interactions in a context such that new patterns and structures are instituted. Using this latter type of approach, some kind of professional practice might develop to combine an action-orientation with a research-orientation.*

### **3.2.3 Study of Educational Change**

The literature of education appears to be an elaboration of the tension between ‘learning’ and ‘schooling’, with a focus on ‘curriculum’ as a mediator. Forms of action perspective seem to have emerged in all three areas: learning, schooling, and curriculum. In the area of learning, the *experiential learning* perspective highlights the action component in learning. This perspective is usually attributed to J. Dewey (who was writing in the late 1930s and 1940s) and J. Piaget (writing in 1960s and 1970s). It highlights the importance of the here-and-now concrete experiences in any kind of learning (Kolb, 1984). If learning is used as a metaphor for research (e.g., learning at the level of human species), then a number of interesting pointers emerge from the experiential learning perspective. More specific elaborations of this theme were not found within the education literature reviewed.

Recent developments in educational change are concerned with the quality of schooling. Perhaps starting with the Netherlands (in the 1960s), an interest emerged in studying the effectiveness of schools and finding ways of improving school education. Many such attempts were made in USA in the mid-1970s and in UK in the 1980s (Reynolds and Cuttance, 1992). This has been a very lively area of work, not only because of the fundamental relevance of education to social existence, but also because of the availability of extreme views concerning education. One extreme position was that of Illich (1971), who suggested that school-based education was merely a form of social control and a means for maintaining the social *status quo*. This view was criticised (e.g., Apple, 1977) because it did not suggest a strategy for changing the character of schooling. It is in the discourse of changing the character of schooling that the action perspective emerged strongly.

Educational reform had become a major area of state policy by the 1980s in the USA. But their experience with the implementation of these policies was not very satisfactory (Odden,

1991). Various projects to evaluate the effects of educational policies indicated the importance of the 'local' in the successful implementation of policies. Although formal compliance or adaptation to policy requirements did occur, resistance and 'strategic interaction' (local activity to shape policy) were also widespread. Through findings like these, the importance of teachers driving the local educational process was realised (Odden, 1991).

On the question of 'curriculum', the discourse of education seems to have moved on from the notion of 'curriculum as fact' to 'curriculum as practice' (Young, 1977). This implies that a curriculum is the result of how people collectively attempt to order their world and in the process produce knowledge. This perspective suggests that curriculum change is not the sole responsibility of policy makers but also of teachers and the community at large.

The idea that educational change has to be a school-based and teacher-led affair expressed itself in what came to be called *educational action research*. Currently this represents a more prolific area of activity. An introduction to educational action research in schools in the UK is given by Elliott (1978). He distinguished action research from *deliberative* and *evaluative* modes of reflection. For him, the deliberative mode of reflection was 'reflection related to choice' and the evaluative mode of reflection was 'reflection related to response', while action research was 'reflection related to diagnosis'. These distinctions delimited the tasks for research, deliberation, and evaluation. In this formulation, research, i.e., action research, could not prescribe actions, but only provide valuable diagnostic inputs to the deliberative process which would result in some action. He identified the following 8 characteristics of early action research in schools in UK:

1. Action research in schools investigates human actions and social situations which are experienced by teachers as:
  - a) unacceptable in some respects (problematic);
  - b) susceptible to change (contingent);
  - c) requiring a practical response (prescriptive).
2. The aim of action research is to deepen the teacher's understanding (diagnosis) of his problem. It therefore adopts an exploratory stance towards any initial definitions of his situation he may hold.
3. Action research adopts a theoretical stance in which action intended to change the situation is temporarily suspended until a deeper understanding of the practical problem has been achieved.
4. In explaining 'what is going on' action research tells a 'story' about the event by relating it to a context of mutually inter-dependent contingencies, i.e., events which 'hang together'. Because, they depend on each other for their occurrence.
5. Action research interprets 'what is going on' from the point of view of those acting and interacting in the problem situation, e.g., teachers and pupils, teachers and head teacher.
6. Since Action Research looks at a situation from the participants' point of view, it will describe and explain 'what is going on' in the same language as they used: namely, the common-sense language people use to describe and explain human actions and social situations in everyday life.

7. Since action research looks at a problem from the point of view of those involved, it can only be validated in unconstrained dialogue with them.
8. Since action research involves unconstrained dialogue between 'researcher' (whether he be an outsider or teacher/researcher) and participants, there must be free information flow between them. (Elliott, 1978)

A recent book by Elliott (1991) seems to have reformulated the notion of educational action research. It seems instructive to study this reformulation in some detail, especially because it highlights some of the difficulties of the research thinking in this area. (Besides Elliott seems to be one of the key contributors in this area, see Centre for Applied Research in Education: People: John Elliott at [http://www.uea.ac.uk/menu/acad\\_depts/care/people/peepje.html](http://www.uea.ac.uk/menu/acad_depts/care/people/peepje.html).) Elliott's early (1978) characterisation of action research implies the following notions:

- action research deepens a teacher's understanding
- action is temporarily suspended until a deeper understanding is achieved
- action research seeks to explain 'what is going on'
- the explanation constitutes a 'story'
- the 'story' captures the participants' point of view
- the 'story' is told in the 'common-sense language people use'
- the 'story' is validated by the participants
- this validation involves 'unconstrained dialogue'

The above characterisation might be interrogated in various ways. While a 'deeper understanding' is being sought, how to recognise when it actually occurs? Obviously, individual judgements are not reliable because of the interference of psychological defences, inter-personal conflicts in judgement, weight of personal idiosyncrasies and prejudices, re-enactment of organisational beliefs or standards, etc. The idea of suspending action seems to have a paradoxical nature. Conceptually, even suspending action is an action, and practically, can a total suspension be achieved? If action research is said to be about explaining 'what is going on', then it needs: a *language* and a *referent*. The language is said to be the 'common-sense language people use' and the referent is presumably the causal structure of events within the situation. This requires the research process to access past events accurately which would require truthful reports about past events. How can truthful reports be obtained and how can these be recognised as truthful? This problem is said to be endemic to the social world where the event might not always be reportable truthfully (Pitkin, 1972). Using the notion of a 'story' introduces some more difficulties. Can research produce better stories than what might already be available? Elliott has used the notion of a 'point of view' in the singular, suggesting that multiple points of view, if present, are reconcilable into one covering point of view. How can this be achieved? The requirement that 'validation' has to take place in an 'unconstrained dialogue' might be an ideal. How will research approximate that ideal? Some of these problems seem to have been addressed in Elliott's subsequent reformulation of action research (Elliott, 1991) which will be discussed below.

Elliott (1991) has reformulated the aim of educational action research as 'the fundamental aim of action research is to improve practice rather than to produce knowledge' (*ibid.*, p. 49), where improvement is defined as 'realisation of values' with the proviso that value realisation is context-bound and never-ending. This renders the issue of 'deeper understanding' relatively less important. It seems, for Elliott, the notion of 'research as a practice itself' has given way to the notion of 'research as an instrument in a practice'. This might be considered

as an interesting turn in the notion of 'research' in educational action research. Elliott (1991) does not seem to require any more that action be suspended during research. He has reiterated the cyclic nature of action research, and has eliminated the suspension of action as a necessary condition. He has sought to demarcate action research from practical philosophy since both appear to discuss the realisation of values (Elliott, 1991, p. 51). Action research has been demarcated by its concern for embracing 'empirical data'. Elliott has continued to presume that reliable reports of events are still necessary. The earlier notion of a 'story' seems to have been replaced by the notion of a 'case'. Elliott (1991) views the practical wisdom of teachers as 'a reflectively processed repertoire of cases' (Elliott, 1991, p. 53); also, 'case studies are a way of publicly reporting research' (*ibid.*, p. 87). Accordingly, what is aimed at is not any story, but a special type of story, a 'case'. Presumably, there might be some benefit for the general public to have the case, but its function in research would need further discussion, especially if research is to be an instrument in a practice. Elliott (1991) has recognised that all points of view might not be reconcilable. Professional values might clash among themselves (Elliott, 1991, p. 57) and with various institutional forces (*ibid.*, p. 66). In fact, values of action researchers could clash too (*ibid.*, p. 116). So, it would appear that what Elliott had ignored in 1978, he has recognised in 1991. This seems to have compelled him to take sides. He has not taken sides with the 'culture of reflective practice'. But, in his definition of 'improvement' he has included the notion of 'value'. What has remained to be clarified is the type of difficulty that could arise when points of view differ on what the 'value' of a 'practice' exactly is? Thus, the problem has not gone away, although it has been shifted to a different domain.

Elliott's notion of 'creative conformity' (Elliott, 1991, p. 93) would appear to be a way of dealing with the problem of unconstrained dialogue. 'When dialogue becomes difficult, don't get into it,' would perhaps be his advice. It could be a good practical advice under certain circumstances but perhaps not always. From the point of view of 'research as an instrument in a practice', it would seem to suggest that the instrument of research should not always be wielded! Of course, it leaves the question of when it should be wielded and how it should be wielded rather open-ended.

The above considerations indicate that Elliott (1991) has revisited some of the problems involved in his earlier formulation of action research. Most of these problems become reformulated as a result of his more fundamental reformulation of 'research' itself: 'research' has become *instrumental* in the wider 'practice' of educational reform. This reformulation would seem to contribute to a reasonable treatment of most of the problems identified in his earlier work. One problem that has remained substantially unaddressed is with respect to obtaining reliable reports of past events.

A recent comment on action research in education has been given by Maruyama (1996). He has referred to *Practitioner-Centred Action Research* (PCAR), which he has distinguished from the more traditional Lewinian notion of action research. According to Maruyama, PCAR does not seek to identify 'laws'; it does not approve of any form of control of the research process; and it does not emphasise the need to ground research on global principles. He has indicated that PCAR emphasises: (a) a cyclic process of planning, action, and evaluation, (b) feedback of findings to practitioners, (c) principles of collaboration, and (d) minimising the negative effects of power and status. In educational research, PCAR appears to advocate a form of local interaction and exchange among teachers which could enrich their professional practice according to some self-produced criteria. However, the interest in effacing any global principles in such adaptations of research becomes paradoxical because

the form of local interaction envisaged becomes in effect a global principle presumably worth applying in different local environments.

It seems PCAR does not address social and group dynamics, issues which are not entirely local to the context of teaching. Describing the potential of *Lewinian Action Research* (LAR) in education, Maruyama (1996) has indicated the need to examine the social dynamics of schools, classes, and other groups, and how those dynamics might affect individuals. The Lewinian research perspective would seek to orchestrate (or induce) the appropriate type of dynamics in order to achieve the preferred behaviour in any given context.

Commenting about the *method* of action research in education, Maruyama has identified some stages of such research: identification of a problem, formation of a group of researchers and practitioners to address the problem (either researchers or practitioners might initiate the group formation), consultation with others involved in the setting, observation of the dynamics of the setting, designing an action strategy, developing instruments for assessing the effects of that strategy, and collection of data to evaluate the effects of the action strategy. Once data were available, the group could reconvene to interpret the data and draw inferences from them, transmitting the results back to all the individuals in the setting, before revisiting the design stage. The process is again cyclical although it is not evident how PCAR and LAR would differ in terms of method.

It is not clarified in the literature whether there is something special to the above type of method which would promise results superior to what might be achievable through everyday interactions. Besides, it is also not clarified how such activities might be initiated and maintained in an environment where such activities have not emerged/developed on their own. In other words, the methodological component of the above proposal seems to be somewhat under-articulated.

*The notion of learning may involve a combination of action-orientation and research orientation. However, if a type of research-orientation involves the introduction of some new pattern in a social domain, such introduction has also to contend with the problem of local resistance, strategic interaction, etc. There may be things like curriculum which can be improved by allowing them to be continuously shaped by the mutual interaction among a relevant group of people who might individually be capable of ordering their world differently. Action-oriented research may be seen as a social practice or a part of a different social practice; thus it cannot be value-free. However, it needs to have some distinctive character in order to be distinguishable from other value-full activities. While a form of action-oriented research may seek to discover and use some fundamental patterns of group behaviour, a different form of action-oriented research may seek to create and maintain support groups among professionals which provide some support to them based on some internally self-produced criteria.*

### **3.2.4 Action-orientation in Other Areas**

#### *Policy Studies*

The area of policy studies seems to have nurtured a debate about the appropriate role of scientific research. Rittel and Webber (1973) have pointed out the reason why a conventional scientific approach to deal with policy problems might not succeed. One of the major difficulties in dealing scientifically with these problems is the difficulty in defining the 'right'



thing to do. They have characterised planning and policy problems as ‘wicked problems’ (*ibid.*, pp. 160ff). This would imply that some fundamental re-orientation in thinking might be required in order to develop a research thinking capable of tackling planning and policy problems in a systematic and constructive manner.

Rein has provided an elaborate argument concerning why the traditional separation between research and action might become problematic in the field of policy studies (Rein, 1970; 1983). The traditional separation arises here because policy research typically implies evaluative research—the assessment of policies already established. However, where policy research is expected to identify ways to improve existing policies and their implementation or develop new policy proposals, a strict separation between research and action becomes more difficult to maintain.

Contemplating about the need for a larger conception of the interplay between policy action and policy research, Rein (1983) has written the following:

In a very real way, the political community has handed over to the scientific community part of the problem of arriving at consensual social purposes and values. But this delegation transfers to the researcher a problem that exceeds his or her professional competence, and it divests the policymaker of some of his or her genuine political responsibility (Rein, 1983, p. 217).

Issues like the above have prompted Rein to extend the more conventional notion of policy research as producing factual knowledge, to a more action-oriented notion:

I have argued here that knowledge of fact and commitment to values both arise from the realm of action. It follows from this perspective that policy research must start from a commitment to action and actors (*ibid.*, p. 233).

As mentioned before (in Paragraph 3.2.3), various studies to evaluate educational policies have indicated the importance of the ‘local’ in the successful implementation of policies (Odden, 1991; McLaughlin, 1987). Results like these have reinforced the action-oriented perspective in policy studies. According to this perspective, success of a policy process depends on a type of co-ordination between the micro and the macro contexts not envisaged in the more traditional view of policy science.

Similar points have been made within the literature of programme evaluation. The sorts of research notions associated with evaluation studies seem to have undergone fundamental changes. The notion that evaluation research ought to generate valid knowledge about social programmes has been replaced with a more complex notion that involves communication, dealing with values, eliciting action from stakeholder groups, etc., implying an active role for the evaluator inside the changing world of programme evaluation (Cook and Shadish, 1986). Van der Kamp has also interpreted the programme evaluator as a significant actor within a social intervention, viewing evaluation research as a form of action research (van der Kamp, 1996). This occasions a reflection about the likely difference between the actions of the programme evaluator (who is now said to be a significant actor) and the other significant actors within the relevant context. The literature does not seem to have focused on this aspect.

Klabbers has argued about the need for alternative models for policy research—models that would involve implementation of *policy support systems*:

Operational use of support systems as described here, provide social situations in which science production becomes intertwined with science utilization. Purposes of use are improvement of policy formation process, of handling available information, as compared with previously existing situations. If applied appropriately, those support systems can enhance self-steering capacities that are built-in in all social systems, but for various reasons are being suppressed (Klabbers, 1986).

In the above, there is a clearer notion of how research-like and action-like aims might be combined together within one and the same process. It involves the creation and implementation of policy support systems that enhance the ‘self-steering capacities’ of some relevant social system(s), presumably to become better instances of ‘self-steering systems’. This type of thinking on action-oriented research is related to *systems thinking*, an area of research and practice to be reviewed in detail in Chapter 4.

### *Psychology*

Psychological studies of perception, self, personality, memory, etc., appear to indicate a degree of openness with respect to how an individual is constituted (see, e.g., an extensive review by Spinelli, 1989). One of the implications of this realisation is that psychology need not confine itself to a study of what a person is, but also help in realising what the person is capable of becoming. This becoming could be viewed at the level of the individual (see, e.g., Client Centered Therapy pages at <http://www.gallaudet.edu/~l1imgourn/client.html>) or at wider levels, including the level of the human species (see, e.g., Center for Evolutionary Psychology pages at <http://www.psych.ucsb.edu/research/cep/>).

It is in dealing with this sort of openness of what is being studied that the action-oriented perspective seems to have emerged as an adaptation of more conventional research. The discussion in psychology referred to above seems to indicate many levels of phenomena: the individual (or local) level and the progressively wider (or more global) levels. *Results at one level do not seem to be independent of the results at the other levels; and this might be a key characteristic of the openness of the object of study.* It seems where objects in the closed form are difficult to identify, a creative alternative for research could be to strive to achieve (and maintain) some preferable effect(s) at any specific level by identifying and orchestrating the required processes (actions, interactions, communications, etc.) at various levels together.

### *Geography*

A type of action-orientation has emerged in Geography (Werlen, 1993). Traditionally geography has dealt with representations of space, i.e., maps. As long as geography remained confined to mere representations of space, there would be the question of how ‘true’ or ‘correct’ these representations were. Arguing that ‘space’ could not be a research object by itself, Werlen has reformulated geography as *action-oriented social geography* (*ibid.*, p. 3).

It has been argued by Werlen that any concept of space is meaningful only within a context of action; particularly so, when the ‘space’ itself is constituted contextually and socially, and not in a pre-ordained natural way. *From this, it would seem that geographical maps are not*

*really maps of an independently existing space but maps for doing something in a context-dependent domain.* (The weather graphics by the BBC Weather Centre <http://www.bbc.co.uk/weather/> and the maps of the London Underground at <http://www.londontransport.co.uk/scrollmap/area.html.html> might be considered as relevant examples of the above.) This would imply different kinds of aims and methods for research in action-oriented social geography.

Werlen's intellectual ferment is directed against the notion of truthful representation of space as an aim of research. His proclivity to contextuallise and relativise the notion of research reflects a somewhat general trend in many other areas of study.

### *Physics*

Something like a fundamental rethinking is also noticeable in the literature of physics, especially with respect to the understanding of objectivity. Following commentators like Bohm (1983), Capra (1982; 1997), Davies (1983), and Zukav (1979), it would seem that the Einsteinian and quantum revolutions in physics might have changed radically the understanding of objectivity.

It now appears that we cannot speak of the properties of an object as such; but only in the context of the observer's interactions with what is abstracted as the object (e.g., Capra, 1997, p. 144; Bohm, 1983, Chapters 2 and 3). Bohm has argued, the statement 'An observer is looking at an object' could be stated more appropriately as 'Observation is going on, in an undivided movement involving those abstractions customarily called 'the human being' and 'the object he is looking at' (Bohm, 1983, pp. 28-29). *Considering 'reality' and 'knowledge' as process, Bohm has commented that our 'thoughts' and an 'independent overall order of a total reality' could not be ultimately analysed into separate existence.* Interpretations like these indicate the action-like aspect of an observational process, implying that, at least in certain fields of research endeavour, the 'objects' of science might be a result of a process of active construction.

*It is not possible to maintain the traditional separation between research and action in certain domains (arising in specific research situations in natural, psychological, and social spheres). These domains make new demands on researchers, e.g., how to create a desired type of co-ordination between the micro and the macro levels in society? This attributes a more active role to the researcher than understood traditionally. The need for this kind of action-orientation within research arises especially when it is not possible to specify exhaustively that which is being studied (also expressed as the problem of openness of the research object). Where research objects in the closed form are difficult to identify, a creative alternative for research could be to strive to achieve some special type of closure by orchestrating the required processes (actions, interactions, communications, etc.). This makes research a contextual process seeking the improvement of action in some domain through achieving the required type of closure rather than seeking to uncover some underlying truth.*

### **3.3 Present Approaches to Action Research**

Hopefully, the above description suffices as an adequate preparation to review the present range of activities discussed under the broad banner of *action research*. A number of

approaches have emerged and established themselves under this banner (Chisholm and Elden, 1993; Reason, 1994a; Moggridge and Reason, 1996). These approaches have made their entry into a wide range of domains requiring practical interventions to bring about desirable changes. There is now a large body of literature available on these approaches to action research.

The literature indicates that action research is taken to be distinct from *applied research*. Some researchers working on action-oriented projects, such as in organisational or social planning, have realised that the notion of ‘expertise’, as might be pre-supposed by *applied research*, is quite problematic, for different reasons (see, e.g., Emery, 1981a; McLaughlin, 1987; Rittel and Webber, 1981; Ulrich, 1987). Action-oriented research is said to involve the *generation* of situation-specific knowledge, not the mere application of some pre-existing knowledge. A wide range of proposals and approaches have emerged about how this has to be done (recent overviews by Flood and Romm, 1996a; Moggridge and Reason, 1996; and Reason, 1994a). Some of these will be discussed below.

### **3.3.1 Action Learning**

This stream of management and organisational development work is linked with the name of R. Revans, who had initiated Action Learning in the UK in the late 1930s (Revans, 1988). McGill and Beaty (1992), among others, represent this line of work today. It represents one of the early attempts at conceptualising everyday problem solving in groups as the main driver of management learning and development (Pedler, 1991; Revans, 1982; 1988). It has been presented as a reaction against the idea that there is something like managerial ‘expertise’ which can be imparted to managers through classroom-based training programmes alone. Action Learning is meant to be used within an organisational or inter-organisational context. Managers undergoing an Action Learning programme are expected to develop changed interpretations of their past experiences and new perceptions of their work. The process involves group problem solving through experience sharing, discussions, challenging assumptions, raising questions, making suggestions, etc. This is said to result in management development.

Experience of applying the action learning approach in a wide variety of settings [‘what 400 problems, in 40 lands over 40 years, have all in common’ (Revans, 1988, p. 139)] seems to have reinforced some of the notions used by its advocates. Some of these notions are: ‘ignorance of the learned’ (implying the inadequacy of ‘programmed instruction’), learning from practice rather than from theory, organisations learning from each other, employees’ living experience as the most important resource of an organisation, importance of studying oneself (through ‘questioning insights’), transparent internal conversations within an organisation for better performance and higher morale, importance of sharing knowledge and experience within a community, cross-fertilisation of collective abilities in a group, the possibility of ‘auto-therapeutic organisms’ (i.e., organisations that learn to ameliorate their own problems), the notion of self-help or ‘comrades in adversity’, and that there can be no action learning ‘experts’ (using the word in a pejorative sense) (Revans, 1988).

From the above, it would seem that Action Learning is not an approach for research. In fact Action Learning advocates seem to deride some of the more formal aspects of research, e.g., theory. But, interestingly, formal research notions seem to be inescapable: mark the structure of *induction* in ‘what 400 problems, in 40 lands over 40 years, have all in common’ (Revans, 1988, p. 139). Of course, Revans has not gone ahead to formalise that which might be

common. *If Action Learning succeeds in specifying clearly the forms of interaction and the conditions under which such interactions achieve the desired local effects (e.g., transparent internal conversations, knowledge sharing, cross-fertilisation of collective abilities, etc., within an organisation, and the emergence of 'auto-therapeutic organisms') while also achieving interesting effects outside and beyond the local, it might be worth pursuing, even with the exactness and integrity of research. If one harbours an open mind with respect to research, then the approach proposed by Action Learning would seem to provide material for a potential model for action-oriented research.*

### 3.3.2 Action Science

Action Science has been associated with the names of Argyris, Schön, Putnam and McLain-Smith (Argyris and Schön, 1974; Argyris, *et al.*, 1985). It is supposed to be carried out in a client organisation, whereby members of that organisation engage in a process of 'free and open inquiry' to reconsider their own 'empirical, interpretive, and normative claims' (Argyris, *et al.*, 1985, pp. 77ff).

The approach seeks to bring to the fore the workings of various 'defensive routines' people employ when faced with situations requiring novel and creative responses. It is hoped within Action Science that an awareness of such 'defensive routines' would help people overcome these and thereby make it possible for them to engage in 'double-loop learning'. In 'double-loop learning', the focus is on experimenting with familiar frameworks, assumptions, and patterns of thought and behaviour, by trying to replace these with novel alternatives (see Chris Argyris Bibliography pages at <http://enhanced-designs.com/actnet/argbib.htm>). Argyris describes these two types of learning using the metaphor of a thermostat:

Two types of learning are necessary in all organizations. The first is single-loop learning: Learning that corrects errors by changing routine behavior. It is incremental and adaptive, something like a thermostat that is set to turn on the heat if the room temperature drops below 68 degrees. The second is double-loop learning: Learning that corrects errors by examining the underlying values and policies of the organization. Picture, if you will, an "intelligent" thermostat that can evaluate whether or not 68 degrees is the right temperature for optimum efficiency (Argyris, 1993, p. 5; quoted in *Ideals of Cooperation in Practice* pages at <http://enhanced-designs.com/tcbhome/argyris.htm>).

The term 'science' in Action Science is kept there intentionally; because the proponents of Action Science claim that 'several features of normal science, including intersubjectively verifiable data, explicit inference, disconfirmable propositions, and public testing, are also crucial' to their approach (Argyris, *et al.*, 1985, p. xiv). The approach seeks to 'enact communities of inquiry in communities of practice' (*ibid.*, pp. 34ff).

Emphasising the science aspect, Argyris, *et al.*, say that, '... in inferring a rule from a sample of talk, we propose a hypothesis that may be disconfirmed. This hypothesis asserts that in similar situations the actor will create similar meanings' (Argyris, *et al.*, 1985, p. 59). *There seem to be two types of interests involved here: (i) to discover the stable mental mechanism ('routine') that enables an actor to create meanings and (ii) to encourage and assist the actor to replace voluntarily that 'routine' with another. Notwithstanding the difficulties of fulfilling these interests, there appears to be a promise of an interesting extension to the more conventional notion of research, which would, within itself, emphasise discovery alone.*

### 3.3.3 Action Inquiry

Although the name Action Inquiry is sometimes used synonymously with Action Science (e.g., see Action Inquiry Network pages at <http://enhanced-designs.com/actnet/index.htm>), there appears to be a distinction in the literature. Action Inquiry appears to have developed out of a frustration with Action Science; especially with the latter's failure in actual practice to create working examples of 'communities of inquiry' (D. A. Schön's foreword in Torbert, 1991). This seems to match with another interpretation of Action Inquiry in which the term subsumes 'reflective practice', 'action research', and 'researched action' (Tripp, 1996). Action Inquiry, in both senses, seems to be a method to help people learn how they might improve their performance in their everyday work environments and possibly change their practice. Torbert, one of the main proponent of Action Inquiry (in the sense distinguished from Action Science), has claimed that this approach 'represents a paradigm change as significant as the change from medieval theology to modern natural science' (Torbert, 1991, p. 8).

A key notion in Action Inquiry appears to be that of an *observing participant*. The approach strives to indicate to the participant more effective ways of observing what is around. Recognising that people's attention to things existing/occurring around them is often incomplete, narrow, skewed, and lagged, Action Inquiry seems to propose the following: people should recognise the 'four territories of experience' (i.e., 1. outside world, 2. one's own action, 3. one's own strategy, and 4. one's own vision) and people should seek to 'enact congruent patterns across all four territories' (Torbert, 1991, p. 228). Torbert appears to say that each 'territory' is somewhat autonomous, and he advises that we should consciously strive to maintain a balance among these territories. Action Inquiry visualises observing participants as improving their observations, thus heightening awareness of incongruities among territories if any, and as a result, contributing to improve practice (Torbert, 1991, p. 229). It is claimed that the process, if continued, might institutionalise an inquiry-feedback process within a work context.

Like Action Science, Action Inquiry is also meant to help individuals explore their own propositions about themselves and their situations, and strive to test these propositions in their own actions and with others, while training their consciousness to achieve a balance among the so called four territories of experience. But, Action Inquiry also indicates certain antecedents to the development of this consciousness. One of the main antecedents, especially for 'middle managers' is what Torbert names as 'Liberating Structures'. According to Torbert, a 'Liberating Structure' is somewhat like an organisational mechanism that encourages members to be mindful of the broader purposes and be mutually supportive, assisted by collaborative, wise, and benevolent leadership. The 'Liberating Structure' allows members to design organisational purposes and structures themselves and participate in research and feedback (Torbert, 1991, pp. 97ff).

*The notion of 'territories of experience' might indicate an attempt to extend the scope of more conventional research. The 'world' consisting of these territories is very strange indeed (from the point of view of conventional research) although quite believable in itself. The first of these territories, i.e., the outside world, might not be taken to be observable in the conventional sense, because it is likely to include 'participants'. The other three territories, namely, action, strategy, and vision, are also likely to be beyond the purview of conventional observation. This strongly suggests a 'world' in which conventional research is likely to*

*flounder. Action Inquiry does seem to propose some elements of an alternative model for inquiry. The crucial task of this alternative model seems to be the construction of 'Liberating Structures' by some form of interaction between 'observing participants', such that the result is improved practice in a particular everyday environment.*

### **3.3.4 Participatory Action Research**

Participatory Action Research (PAR) appears to have been used as a generic label (somewhat like 'action research' itself) (see Participatory Action Research pages at <http://www.parnet.org/>) although PAR appears to have a flavour of its own. It seeks to stimulate dialogue. PAR usually takes place in an episodic way, organised through projects. Research and action are supposed to intertwine within the project. Two types of origin of PAR have been discussed in the literature: (i) the social action perspective in sociological thinking, e.g., of Weber (Parsons, 1964; also see Verstehen: Max Weber's page at <http://msumusic.mursuky.edu/~felwell/http/weber/Whome.htm>), Bendix (1963; see Reinhard Bendix page at <http://globetrotter.berkeley.edu/faculty/Bendixbio.html>), and Whyte (1959; 1989; 1991a; 1991b); and (ii) the conscientisation perspective in educational thinking, e.g., that of Freire (Heaney, 1995).

Whyte has commented about his notion of PAR. He has acknowledged the works of the sociotechnical school, particularly that of Trist (1981), and of Einar Thorsrud (1977) in the Norwegian shipbuilding industry as the main inspiration behind his notion of PAR (Whyte, 1989; Whyte, *et al.*, 1989). Whyte has raised several methodological questions as well as questions concerning the goals of social science (Whyte, 1991a). PAR has emerged as a critique of other forms of social research, first, 'the standard model of social research' where 'research' and 'action' are sought to be kept separate, and second, the model of 'action research controlled by the researcher'. PAR visualises a 'research-action' process in which some of the members of the organisations under study participate in the process 'from project design through data gathering, analysis, and report writing, on to the implementation of conclusions emerging from the research' (Whyte, 1991a, p. 273). Of course, the aims of such participation, the criteria for assessing whether the aims are achieved, the sustainability of the results, the issue of side-effects, etc., remain less than fully articulated in the writings of Whyte reviewed here.

Many instances of PAR in modern industrial, co-operative, and other types of organisations have been reported (Whyte, 1991b). The process usually starts by forming a team of some organisation-members with the researcher as a team-facilitator. The team starts identifying 'problems' while continuing to perform everyday work within the organisation. It collects information it considers important in dealing with the 'problems' and enters into various negotiative processes to initiate new programmes of action. The whole experience may change the perception of the team members and other organisation-members, about what constitutes a 'problem' or what constitutes a 'solution'. The researcher mainly tries to keep the team together and going and also provides whatever external perspectives that can be mustered.

Agricultural research and development seems to have become one major domain of work using the perspective of PAR. Such work goes by different names, e.g., Participatory Agricultural Research, Farmer Participatory Research, and now more commonly, *Farming Systems Research* (FSR). Prior to this development, agricultural research and development work was supported by the notion of 'transfer of technology' which involved conducting

scientific research to invent better processes and inputs for agriculture, and then persuading farmers to adopt these. Such work came to be supported by various national and international agencies in the field of agricultural research. Eventually, several weaknesses of this model came to the fore, including some counter-productive outcomes (for examples see chapters 12-16 in Whyte, 1991b). This led to the realisation that farmers have relevant *local knowledge* without which farming is not possible. Any research aiming to deal with some of their problems will have to engage with that knowledge system. Besides, farmers might have a number of inter-related resources and interests which would need to be addressed as a system. This implies that research must take place within the *farming system*, in collaboration with the farmers, and in a way that is understandable and acceptable by the farmers as well as the related publics. Farming Systems Research, embodying this spirit in agricultural research and development, appears to be becoming more and more wide-spread in several countries of the South.

The work of Fals Borda and Rahman appears to represent a form of PAR informed by the educational philosophy of Freire (Fals Borda and Rahman, 1991). The aim of such PAR is expressed by these writers in the following words:

... acquisition of serious and reliable knowledge upon which to construct power, or countervailing power, for the poor, oppressed, and exploited groups and social classes—the grassroots—and for their authentic organizations and movements (*ibid.*, p. 3)

One of the expectations from this type of PAR is ‘social movements without establishing hierarchical parties’ (*ibid.*, pp. 6-7). The term researcher is replaced by the term *animator* in this parlance. Two type of animators are distinguished: external animator, one who is able to apply the Cartesian distinction and follow usual academic norms of study; and internal animator, one whose knowledge is experiential and practical. It is claimed that the knowledge of these two types of animators stem from different ‘class conformations’ and ‘rationalities’. It is proposed that the combined knowledge of these two types of animators ‘makes it possible to acquire a much more accurate and correct picture of the reality that is being transformed’ (*ibid.*, p. 4). Some other notions used in this type of PAR are: organic intellectual, self-reliance promoting organisation (SPO), vision about an ideal state, cultural traditions of common people (e.g., altruism and co-operation), better future for mankind, co-optation (use of PAR by established institutions), etc.

*Both types of PAR outlined above appear to dislodge the notion that a conventional type of knowledge would be adequate for their purpose in their domains of interest (e.g., organisational problem management, agricultural improvement, community development, social transformation, liberation, etc.) Both types of PAR indicate the problems of expert-led approaches to deal with the issues within these domains. In the alternatives these forms of PAR envisage, there seems to be an emphasis on local interactions, participation, negotiations, use of local resources, self-reliance, etc.*

*This might occasion a reflection about why the conventional type of knowledge might be inadequate. PAR approaches seem to point out that the local problems are such that the conventionally discovered knowledge might be inadequate or indeed counter-productive; implying that the task of research ought to change from discovering general objects and relations to somehow producing local results that turn out to be helpful in the local context. It would seem that further clarification of these local results (e.g., their nature and distinction*



*from other types of local entities, the conditions of their emergence and continued presence, their quality and testing criteria, their effects inside and outside the local context, their accumulative effects, problems of their use, etc.) would help strengthen PAR as a model for action-oriented research.*

### **3.3.5 Co-operative Inquiry**

Co-operative Inquiry is usually linked with the domain of professional practice and its development (see Centre for Action Research in Professional Practice page at <http://www.bath.ac.uk/carpp/>). The approach is not claimed to be a separate approach within action research (Reason and Rowan, 1981; Reason, 1988; 1994b). It has been presented as a UK-development in action research, informed by two bodies of thought: experiential learning and humanistic psychology (Reason, 1988, p. 2). The process of co-operative inquiry usually involves the creation of a *co-operative inquiry group*, a group of people (professionals) who are all interested in improving their practice. Nobody in the group has the privileged status of a researcher; each member is considered to be a co-researcher. The intended improvements are sought to be achieved through cycles of work, observation, feedback, and revised work. The approach prescribes several iterations of the cycle, authenticity of participation, use of self-development methods to cope with anxiety, and a group culture of critical debate.

Writings on Co-operative Inquiry claim that the approach requires an ‘extended epistemology’, involving four types of knowing: *experiential knowing*, *presentational knowing*, *propositional knowing*, and *practical knowing* (e.g., Heron, 1988; also see A Lay Person’s Guide to Co-operative Inquiry at <http://www.bath.ac.uk/carpp/LAYGUIDE.htm>). Experiential knowing is defined as the form of knowing involved in direct face-to-face encounter with something; it is said to be knowing through empathy and resonance, and almost impossible to put into words. Presentational knowing is said to emerge from experiential knowing, and enables the first form of expression by drawing on expressive forms of imagery through story, drawing, sculpture, movement, dance, etc. Propositional knowing is defined as knowing through ideas and theories, expressed in informative statements *about* something. Practical knowing is defined as knowing how to do something, expressed in a skill or competence. The co-operative inquiry approach seeks to make these four ways of knowing congruent with each other.

Some of the notions used in Co-operative Inquiry are: critical subjectivity (the importance of building on and developing the subjective knowledge of individuals), research cycling (cycling between action and reflection, notwithstanding whether such cycling is convergent or divergent), balance of action and reflection, critical attention (ability to look at experience critically), authentic collaboration (avoiding any domination in the group and fostering a spirit of co-operation and dialogue), dealing with distress (willingness to address emotional distress openly when it arises), chaos and order (balance between confusion and clarity, convergence and divergence, and the like), etc.

*Co-operative Inquiry illustrates the forms of support professionals might need in order to improve their practice, in addition to an explicit, formal, and ever expanding body of knowledge. In fact, the Co-operative Inquiry approach might be alluding to the very processes that sustain the creation of a professional community with a shared way of experiencing, interacting, acting, and producing the basic strengths of that community. This does appear to indicate a type of direction for action-oriented research.*

### 3.4 Some Aspects of the Current Debate

The above sections have identified some key elements of action-oriented research by reviewing the background and the present diversity of action research. The present section seeks to deepen the review by discussing some of the conceptual themes emerging out of the current debate(s) in the action research literature. It might be noted that the foregoing review does not cover some other possible strands of action research, e.g., *developmental research* (Joosten, 1996), *appreciative inquiry* (Cooperrider and Srivastva, 1987), and *praxis research* (Moser, 1996). These strands will, however, be incorporated in the on-going discussion. There appears to be one fundamental point in the current debates; and that is, the common interest in variously categorising, re-interpreting, deconstructing, modifying, extending, curbing, or even rejecting what the advocates of action research view as the 'normal' or 'traditional' approach to research. Much of the debate in the area seem to be related to the following themes: *nature and problems of 'normal' research* (e.g., Cooperrider and Srivastva, 1987; Rothman, 1972; Sanford, 1970; Whyte, 1991b; Winter, 1987), *nature of the alternatives proposed* (e.g., Argyris and Schön, 1974; 1991; Hult and Lennung, 1980; Pratt, 1966; Schön, 1983; Warmington, 1980), *difficulties associated with the alternatives* (e.g., Aronson and Sherwood, 1967; Blum, 1955; Checkland and Holwell, 1998b; Hodgkinson, 1957; Moser, 1996; Rapoport, 1970; Robinson, 1993; Warmington, 1980), *ways of dealing with these difficulties* (e.g., Bartunek, 1983; Curle, 1949; McCutcheon and Jung, 1990; Peters and Robinson, 1984; Susman and Evered, 1978), and finally, *future directions of action-oriented research* (e.g., Joosten, 1996; van der Kamp, 1996; Zuber-Skerritt, 1996). These themes will be elaborated in the following paragraphs.

#### 3.4.1 Problems of 'Normal' Research

Commentators on action research have been prolific in pointing out that the methods and criteria of 'normal' research are not suitable for the domains of their interest. This occasions a reflection on the possible similarity and the difference between the goals of 'normal' and action-oriented research. Different approaches to action research appear to propose different types of goal. However, any systematic debate about the appropriate goals for action research could not be found in the literature. The emphasis in the literature seems to be in pointing out the various side-effects of conducting 'normal' research.

It has been recognised in the literature that the 'normal' research approach involves a self-imposed distance from the world of action, which might prevent researchers from studying those issues which call for some type of active involvement, e.g., issues in education, social welfare, criminology, and public health (Sanford, 1970, pp. 8-9; van der Kamp, 1996). It has been argued that a separation between research and action might produce stable and high quality results under certain circumstances, but the results might not be utilised by the intended target audience (e.g., Friedlander, 1984). The conventional approach when applied on humans is said to be methodologically erroneous while also unethical (e.g., Argyris and Schön, 1974; 1991; Reason 1994b). The search for objective knowledge in social and organisational domains is said to be misguided because the sort of external world that might warrant such knowledge is not obtained in these domains (e.g., Cooperrider and Srivastva, 1987). The sort of knowledge conventional research seeks to develop is argued to be quite limited in scope; the world of action might involve some other types of knowledge, e.g., forms of subjective and practical knowledge (Reason, 1988; Reason and Rowan, 1981; Revans, 1988). It has been shown that applying the methods and results of conventional

research might actually be counter-productive in some cases, especially where the sort of external world expected by such methods is not obtained (e.g., Argyris, 1992, Chapters 15 and 21; Chesler and Flanders, 1967; Torbert, 1991, p. 255; Whyte, 1991b, Chapter 21). Types of quality criteria employed in conventional research have been argued to be inappropriate in the domains of interest of action research; other criteria based on learning, improvement of practice, professional development, etc., have been discussed (e.g., Revans, 1988; Elliott, 1991).

### ***3.4.2 Alternatives and the Associated Difficulties***

Responses to these difficulties have emerged as various forms of action research, which seek to give an action-orientation to research. In these formulations, research is expected to do more than simply look for observations and accommodate them within theoretical statements. It is expected, for example, to achieve management learning and development, especially through the emergence of *auto-therapeutic organisms* (as in Action Learning), promote creative behavioural responses to difficult situations through exercising *double-loop learning* (as in Action Science), improving practice through *liberating structures* (as in Action Inquiry), enhance *local problem solving competence* and *liberate subjugated knowledges* (as in Participatory Action Research), and support *professional development* (as in Co-operative Inquiry), etc. These proposals could be viewed as important contributions to the discussion about the problems of 'normal' research, especially as the proposals indicating a range of unconventional results expected out of research. The following quotations provide alternative articulations of such expectations:

The question is whether a new form of social grouping can emerge which at once provides stability, impetus, and freedom for its members. ... Such a group may only be very small, but where the relationship between its members is structured according to a common recognition of their needs, human potentialities develop remarkably (Curle, 1949).

Or, in more contemporary idiom:

Most writers on action research agree that its goals comprise the understanding and improvement of practice, the contribution of knowledge about practice, and the improvement of practitioners' ability to understand and improve their own practice (Robinson, 1993).

The debates in this area do not challenge or dispute these expectations from action research. What seem more disputed are the methods of achieving one or more of these aims, in ways behaving academic respectability, e.g., without invoking miracle or magic, without employing deceit or ruse, etc. There seems to be a particular concern in the literature about demarcating action research from other types of activity because different groups of people have started labelling a wide variety of work as action research (e.g., Cooperrider and Srivastva, 1987; Robinson, 1993). The main difficulty seems to arise because of the emphasis of action research approaches on a cyclic process, which might be too broad to be a sufficient demarcation device. A comparison of various proposals about the *method* of action research reveals this difficulty. For example, Karlsen has suggested that in action research, action and research both take place in one iterative process through the following steps:

- (1) formulating the approach to the problem;

- (2) designing/planning;
- (3) acquiring data;
- (4) analysis; and
- (5) reflection/interpretation.

The claim is that the process, when carried out iteratively, produces new knowledge as well as new solutions (Karlsen, 1991).

Bargal, *et al.*, have identified six features of action research. These are:

- (1) a cyclic process of planning, action, and evaluation;
- (2) a continuous feedback of the research results to all parties involved, including clients;
- (3) co-operation between researchers, practitioners, and clients throughout the entire process;
- (4) application of the principles that govern social life and group decision making;
- (5) taking into account differences in values and power of those involved in the research; and
- (6) concurrently solving a problem and generating new knowledge (Bargal, *et al.*, 1992).

In the light of the above guidelines, it does not seem possible to demarcate action research from *any* systematic practice involving some kind of reflection. Winter (1989, p. 25) has pointed out the lack of attention given to the process of reflection (and what features it needs to have in order to be distinctive) in most writings on action research. Other commentators have also raised similar issues:

... the term “action research” is being applied to any practice in which thought and action are related together whether or not any kind of research is involved (Tripp, 1996).

Action research now means different things to different people and, as a result, the action research movement often appears to be held together by little more than a common contempt for academic theorizing and a general disenchantment with ‘mainstream’ research. Everybody knows what action research is against. But the important and still unresolved question is what it is for? (Carr, 1989)

... there must be an intellectual framework, declared in advance, in terms of which learning will be defined. Without such a framework action research can quickly become indistinguishable from mere action (Checkland, 1991).

Some commentators (including Lewin) have emphasised that action research ought to produce some kind of laws or theories, e.g., laws of group behaviour. This introduces a need to discuss the difference (if any) between the so-called ‘normal’ research and action research. If the problems with the ‘normal’ research approach as pointed out by action research advocates are taken seriously, then the notion of law or theory, if used in action research, has to be revised thoroughly in order to make sense. This issue has been pointed out in the literature (e.g., Carr, 1989; Peters and Robinson, 1984; Foster, 1972). Alternative notions such as *living theory* (Whitehead, 1989), *theory-in-use* and *espoused theory* (Argyris and Schön, 1974; 1991), *common people’s knowledge* (Fals Borda and Rahman, 1991); *local theory* (Elden, 1983); etc., have been proposed in the action research literature.

One question asked in the literature more than 40 years back still remains potentially important (Hodgkinson, 1957): ‘What are the grounds for placing confidence in action research?’ Of course many grounds have been proposed and discussed in the literature. There is however a need to discuss these proposals together in order to develop a sense in which Hodgkinson’s question can be addressed.

### 3.4.3 Dealing with the Difficulties

In the face of an over-abundance of terms characterising and categorising action research, and the mounting confusion with respect to its distinctiveness as a research approach, one type of reaction has been to introduce definitional schemes. One example of such a scheme is that of Tripp, which introduces four different terms to distinguish among four different types of activities: ‘thoughtful action’, ‘reflective practice’, ‘action research’, and ‘researched action’ (Tripp, 1996). However, the basis of such a distinction seems to require additional specification.

With a view to demarcating action research from other kinds of activities, some action researchers have highlighted its ‘scientific’ character (e.g., Argyris, *et al.*, 1985), suggesting a possible application of the methodology of falsificationism. However, given the active role of the researcher in action research projects, the status of the ‘disconfirming data’ is likely to be different from that envisaged in the methodology of falsificationism, unless the level of reality where the active role is played is viewed as different from the level of reality where the ‘data’ emerges. This type of clarification could not be found in the literature.

Checkland and Holwell (1998b) have proposed another approach to deal with the problem of demarcation of action research from other types of activities, by using the notion of *recoverability*:

... the aim of AR should be to enact a process based on a declared-in-advance methodology (encompassing a particular framework of ideas) in such a way that the process is *recoverable* by anyone interested in subjecting the research to critical scrutiny (Checkland and Holwell, 1998b, p. 18)

While this proposal appears quite pertinent, it also points to some basic difficulties. The notion of methodology itself seems to have no clear meaning in the action research literature. Quite often, a method (usually a cyclic one) is pre-specified although continually modified to suit the exigencies of a project. The literature does not seem to be too explicit about the guiding logic of such methods their modification. Given this background, the above proposal (about the criterion of recoverability) seems difficult to discuss without some broad conceptualisation of what action-oriented research involves. *However, the proposal brings to light a number of issues namely, the difficulty of finding (or designing) the kind ‘framework of ideas’ envisaged in the proposal, the possibility of local resistance to any such framework, the issue of assessing the quality, effects, etc., of a framework, the logic and the process of improving such ‘frameworks of ideas’ over time, etc.*

There is an argument in the literature to view action research through a *contingency view of science* (Susman and Evered, 1978); through the perspective of grounded (or local) theory (Elden, 1983), and through *non-foundationalist accounts of knowledge* in general (Robinson, 1993).

Action research constitutes a kind of science with a different epistemology that produces a different kind of knowledge, a knowledge which is contingent on the particular situation, and which develops the capacity of the members of the organisation to solve their own problems (Susman and Evered, 1978, p. 601).

Proposals like these might appear to be a ‘solution’ of the problems of action research but, in fact, they seem to shift the problems to different domains. Local improvements cannot fully satisfy the demands of critical scrutiny. Any local result could have effects outside the local. For example, an ‘obsessed fighter against crime’ can continuously present ‘danger to his environment’ (van der Kamp, 1996, p. 128).

What has survival value for the individual may be lethal for the population or for the society (Bateson, 1979, p. 161).

Therefore, it would seem that epistemological innovations like the contingent view of science, local theory, etc., would not be able to address fully the various dilemmas and controversies of action research (e.g., van der Kamp, 1996; Rapoport, 1970; Robinson, 1993; Warmington, 1980).

Another approach to address some of the difficulties in action research thinking has been through the notion of scientific paradigms. Peters and Robinson (1984) have suggested that action research might not yet be a research paradigm. However, some of the action research approaches are presented as new paradigms of research (e.g., Ramírez, 1983; Reason and Rowan, 1981). Parlett and Hamilton (1972) have recognised *two* paradigms in evaluation research: agricultural-botany paradigm and social anthropology paradigm. Some have identified *three* paradigms in action research namely, technical (positivist), practical (interpretivist), and emancipatory (critical) paradigms (e.g., Carr and Kemmis, 1986; Masters, 1995; McCutcheon and Jung, 1990). The difficulty is compounded when additional literature on research paradigms is referred to. For example, Guba has recognised *four* paradigms (namely positivist, post-positivist, critical, and constructivist) for any disciplined inquiry (Guba, 1990). In social and organisational studies, Morgan has identified *four* different paradigms (namely functionalist, interpretive, radical humanist, and radical structuralist) (Morgan, 1980). It was T. Kuhn, the philosopher of science, who had introduced the notion of paradigm as a way of interpreting what scientists do. Masterman (in Lakatos and Musgrave, 1970) had pointed out that Kuhn was using the notion in 21 different senses. Kuhn has responded by reinterpreting the notion of a paradigm as a language that expresses a set of cognitive commitments:

Proponents of different theories (or different paradigms, in the broader sense of the term) speak different languages—languages expressing different cognitive commitments, suitable for different worlds. Their abilities to grasp each other’s viewpoints are therefore inevitably limited by the imperfections of the processes of translation and of reference determination (Kuhn, 1977, p. xxiii).

Following this comment, it would seem paradigm might be too grandiose a term to describe the debates in the action research literature. Clear formulations of languages strictly expressing different cognitive commitments could not be found in the literature. In that sense,

the comment of Peters and Robinson (1984) that action research might not yet be a paradigm seems to be reasonable. However, this does not indicate that a promising research paradigm (in the above sense of Kuhn) for action-oriented research could not be built, systematically tested, and developed through appropriate research programmes in the future.

#### **3.4.4 Future Directions**

A number of commentators have reflected on the future of action research. Three types of thinking could be identified in the literature: (i) some of the approaches among the many currently available will be more significant in the future; (ii) some new approaches are already available which will have to be developed for the future; and (iii) certain basic notions will have to be clarified and new thinking will have to be introduced in order to secure a stimulating future for action-oriented research. These three will be taken up in order.

It has been argued in a recent book that emancipatory or critical action research might be the significant new direction for action research:

This book aims to present new directions in action research by bringing together leading action researchers who have critically reflected on their theory and practice with a focus on *emancipatory* or *critical* action research, based on the Frankfurt School of Critical Theory (Zuber-Skerritt, 1996, p. 3)

Elsewhere, a version of Participatory Action Research designated as ‘Community-based Action Research’ is said to represent ‘the next generation’ (Stringer, 1996, p. 157).

New articulations such as ‘Developmental Research’ (Joosten, 1996) and ‘Praxis Research’ (Moser, 1996) have been argued to be promising for the future. Both have been differentiated from action research:

Developmental research can be distinguished from action research with regard to the research objective. In action research, the awakening of the consciousness and emancipation of a certain group are the most important research objectives, whereas in developmental research, the aim of research is generally to produce knowledge that is useful for realising better action (Joosten, 1996, p. 74).

Although such a distinction might appear superfluous in the light of the foregoing review, the developmental research literature seems to be more specific with respect to its assessment of various research-related notions, e.g., action, actor, transferability, accumulation (e.g., improved competence of actors), conditions for improvement, etc.

Advocates of ‘Praxis Research’ seem to deride what they view as the erroneous intermingling of research and action in action research. They have pointed out a categorical distinction between the *systems of science* and the *systems of praxis*, and the relative autonomy of these two systems. The form of praxis research they visualise involves only a loose co-operation between research and praxis:

Praxis research in this situation is limited to a loose form of co-operation between research and praxis. It would only be profitable when both partners reach some agreement from the very beginning, and achieve as great an

understanding as possible of the partner's system perspective (Moser, 1996, taken from the English version on the Internet).

Some commentators have pointed out the future possibility (and necessity) of cross-fertilisation between action research and management systems thinking (e.g., Checkland and Holwell, 1998b; Flood, 1998; Levin, 1994).

There is a class of contributions in the literature which seems to deal with some basic notions in order to clarify the questions in this area and indicate answers for the future. One such notion is that of 'problem solving'. It has been pointed out that the notion of 'problem' in social and organisational studies is itself problematic (e.g., Landry, 1995; Vickers, 1981). It would seem that action researchers will have to respond to the changing notions of 'problem' and 'problem solving' in the future. For example, if 'problems' are seen as neither entirely in the objective reality nor entirely imagined by some people, then action research may have to suggest how 'to construct a representation of an object to plan an intervention' (Landry, 1995).

The question of *demarcation* might be one of the important questions for the future of action research. The question might be stated in the following words: What is required to be changed in what is considered as scientific such that a model of action-oriented research might be still part of science while combining action-oriented and research-oriented elements? De Zeeuw has given some proposals in dealing with this question. Sensing the difficulties in applying the conventional method of science in certain areas, and sensing the need for evaluating among a number of methodologies, paradigms, etc., De Zeeuw has proposed an alternative to Popper's 'proposal for an agreement or convention' about what constitutes science. De Zeeuw's proposal takes the shape of 'four puzzles of demarcation' (de Zeeuw, 1995, p. 18). This type of thinking, when elaborated and specified, will provide the foundation for building research paradigms for action-oriented research.

The question of how research gets to be *used* is central to any action-oriented research perspective. Early work on modelling the process by which research gets to be used has recognised many aspects of the problem. Simple notions of *application* or even *clinical* notions of practice-theory interaction have been found to be inadequate to refer to the process (e.g., Cherns, 1972). In later understanding (e.g., Joosten, 1996; de Zeeuw, 1986, 1992), the notions of *actor* (or, participant) and *competence* emerge as crucial. According to this understanding, the research process becomes useful if it helps actors to increase their competence and also helps to maintain such a process over time, and for a variety of users. As long as action research depends on the support (economic and otherwise) of users, these notions should prove to be significant for its future.

A summary of the key ideas recovered from this chapter will be presented in Chapter 5 (see Subsection 5.5.1). The next chapter reviews another family of literature (i.e., the family of *management systems approaches*) which also shares an interest in bringing together an action-orientation and a research-orientation. These two families of literature will be compared for their similarities and differences towards the end of the next chapter (Section 4.4).



## Family of Management Systems Literature

### 4.1 Introduction to the Review

The family of action research literature reviewed in Chapter 3 does not exhaust the entire range of literature on how a research-orientation and an action-orientation might be combined in a systematic way. The present chapter reviews the family of *management systems* literature where the conceptualisation of action-oriented research seems to have taken a unique direction characterised by the variously interpreted notion of a *system*.

The label *management systems* refers to a growing body of academic literature using systems ideas (e.g., ideas of system—open and closed, boundary, elements and relations, complexity, communication, control, self-regulation, hierarchy, structure, emergent property, evolution, etc.) to study and address the problems of management in organisations and society. This literature is usually identified within broader category labels such as ‘systems approach’, ‘systems thinking’, ‘systems movement’, ‘systems research’, ‘systems practice’, ‘systems theory’, ‘systems and cybernetics’, etc. Some commentators have used the label ‘systems movement’ to refer to the broad intellectual landscape within which this literature has flourished (e.g., Checkland, 1981; Flood and Jackson, 1991a; Jackson, 1991; Klir, 1991; see Cybernetics and Systems Theory pages at <http://pespmc1.vub.ac.be/CYBSYSTH.html>).

The review will focus on the conceptual elements discussed in the literature which might be used later to build a general conceptual framework to guide action-oriented research. It is not the aim to describe a number of management systems approaches in detail covering the associated tools and techniques, their strengths and weaknesses, etc., but to focus on how an approach reconciles an action-orientation *within* research (or even a research-orientation *within* action). Special attention will be paid to ideas which address the difficulties of action research discussed in the previous chapter.

### 4.2 Systems Movement

There seem to be many different interpretations of how and why the systems movement has emerged. It has been linked with an awareness about the need to study the interconnectedness of phenomena and perhaps also of the mechanisms that generate the phenomena (e.g., Ackoff, 1981; Capra, 1982; Churchman, 1979; Flood and Jackson, 1991a). It has been linked with the need to study complex integrated wholes having ‘emergent properties’—properties not present in the constituent parts but which emerge from their interaction (e.g., Beer, 1979; Capra, 1997; Checkland, 1981). It has been interpreted as a ‘will to systems’ within a process of transformation of ‘epochal ontological orders’ (Fuenmayor, 1997). It has also been interpreted as involving a generalisation on the conventional notion of scientific ‘object’, in terms of ‘system’, amounting to a possible extension of the scope and methods of science (de Zeeuw, 1995).

The movement is generally traced back to the 1940s (although it is known that the Russian thinker A. Bogdanov had pre-empted some of the systems ideas between 1912 and 1917)

(Capra, 1997, Chapter 3). Early work on systems was done in two somewhat distinguishable traditions of inquiry, namely *general systems* and *cybernetics*. One of the core notions of the general systems tradition was that of an **open system** (von Bertalanffy, 1950; also see Systems Theory at <http://www.ccens.com/systhe.htm>). Similarly, one of the core notions of the cybernetics tradition was that of **control** (Ashby, 1964; Wiener, 1961; also see Homepage of W. Ross Ashby at <http://www.gwu.edu/~asc/biographies/ashby/ashby.html>; Wiener: Ideas at <http://www.well.com/user/mmcadams/wiener.html>). The notions of **homeostasis** and **self-regulation** were discussed in both the traditions, as the notions were found to be of potentially more general (and perhaps, inter-disciplinary) interest than commonly recognised among researchers at that time.

Both the traditions seemed to evince an interest in studying a general set of problems of research obtaining in a wide range of disciplinary fields. The group of scientists who had formed the *International Society for General Systems Research* in 1954 (see International Society for the System Sciences pages at <http://www.issc.org/>) utilised the *open system* notion in studying a wide range of phenomena, including biological, organisational, and social phenomena (Emery and Trist, 1965; Katz and Kahn, 1978). The defining characteristics of open systems (namely importation of energy, throughput, output, cycles of events, negative entropy, information input, steady state or dynamic homeostasis, differentiation, integration and co-ordination, and equifinality) were instantiated in separate areas of inquiry. *It seemed as if the language of general systems was capable of unifying knowledge from different disciplines and fostering transfer of knowledge among them. It seemed to provide a way of abstracting domain-independent knowledge from a set of domain-specific knowledges.* A major product of this type of approach was the conceptualisation of ‘living systems’ (Miller, 1978). This attempted to abstract the defining characteristics of living systems from seven different domains (namely the domains of cell, organ, organism, group, organisation, society, and supra-national system). This type of activity within the systems movement has sustained an interest in studying general systemic principles manifest in different phenomenal domains, and applying these principles in finding and rectifying dysfunctions that might reduce a system's effectiveness in achieving its purposes (see, e.g., Applications of Living Systems Theory at [http://www.newciv.org/ISSS\\_Primer/ase05jm.html](http://www.newciv.org/ISSS_Primer/ase05jm.html)). It was generally expected that this type of strategy should result in the development of a corpus of knowledge (e.g., *about* living systems) and an increased ability to diagnose and improve, or design, systems in different domains.

The research perspective involved here might be compared with the more traditional research perspective. For example, the characteristics of living systems might be seen as part of the *natural order* of things; once *discovered* these can be *used* for various practical purposes. These characteristics do not seem to depend upon the *values* (or the actions) of either the researcher or the user of the result. Such a system, even if artificially designed, might thereafter behave as if it were a part of the natural order of things, although it might require some kind of maintenance effort.

That some systems could pursue their own values (goals or purposes) was a crucial issue within the tradition of cybernetics (Ashby, 1964; Wiener, 1961). Early cyberneticians had shown that apparent goal-seeking behaviour might arise out of a *feedback structure*, e.g., that of an ‘error-controlled regulator’. Such a structure would involve a ‘black box’ which transforms inputs into outputs, a ‘controller’ that compares the outputs with a ‘target’ parameter and computes (using a model of the ‘black box’) how the inputs should be altered in order to reduce the error between the output and the target, and supplies that input to the

‘black box’. Ashby and Wiener had highlighted the generality of the principles of cybernetics in studying goal-seeking behaviour in a wide range of phenomena—‘in the animal and the machine’.

Later on, the language of cybernetics was used to study patterns of regulatory behaviour in many domains including organisational and social domains (e.g., Bateson, 1979; Beer, 1979; 1985). Over the years, there has been a spectacular expansion of the field of cybernetics and applications have been found in a wide range of areas, e.g., robotics, computing, bio-medical applications, environmental studies, management, social planning and administration, economics, international relations, etc., accounts of which have been reported in various systems and cybernetics journals (see Cybernetics and Systems Journals page at <http://pespmc1.vub.ac.be/JOURNALS.html>). The interest of cybernetics in studying the various implications of *self-regulation* have been manifest in these applications.

A cybernetically self-regulating system might or might not be a part of the natural order of things. It might have to be designed, for example. But, once a self-regulating system is designed (or brought forth into the world) it might thereafter be seen as part of the natural order of things, and therefore, could be observed as such by an outside observer. Of course, such a system might also require some kind of maintenance effort. Applications and explorations of cybernetic thinking in certain domains (e.g., human knowing, co-ordination systems, organisational design, social administration, etc.) have indicated the need for conceptualising alternative forms of interaction between an observer and a system. In one such form of interaction the system might be capable of observing itself and/or observing the outside observer, i.e., it might be an *observing system* (von Foerster, 1984). The contemporary discussion on *second-order cybernetics* pays attention to this type of system and interaction among such systems (Cariani, 1993; von Foerster, 1984; Glanville, 1993; Reyes, 1995, Chapter 3; Umpleby, 1990; 1991; 1994; van de Vijver, 1992; de Zeeuw, 1993a; also see Cybernetics & Human Knowing: A Journal of Second Order Cybernetics & Cyber-Semiotics at <http://www.db.dk/dbaa/sbr/cyber.htm>). The issue of whether anything like a part of the natural order of things emerges from such an interaction has been discussed in this area.

*In both the traditions of the systems movement (i.e., general systems and cybernetics) discussed above, there appears to be an interest in either discovering or postulating (and designing) a system with stable characteristics such that it displays (or acquires) a status equivalent to the natural order of things. This could be interpreted as their ‘scientific’ orientation. That might be the reason why the systems approaches needed no great justification to be applied to numerous practical situations requiring some kind of improvement. There have emerged organisations specialising in providing consultancy and training in applying management systems approaches with a view to improve organisations and communities (see, e.g., Phrontis Limited at <http://www.phrontis.com/>). However, applied systems work has brought in issues which have necessitated further elaborations of systems thinking. That is what one notices in the contemporary literature of management systems. This literature has revealed certain issues in using systems notions to achieve local outcomes (valued by some client). Whether and how such applied work might produce some kind of research outcome as well will be the focus in the present review. Some of these approaches that present a more or less contemporary picture of management systems thinking will be taken up for review in the next section. The main aim will be to explore further how applied systems work inter-relates action-oriented and research-oriented interests together.*

## 4.3 Management Systems Approaches

### 4.3.1 Operational Research/Management Science

Operational Research/Management Science (OR/MS or OR) consists of an ever growing set of methods and tools to effect improvements in the conduct and co-ordination of operations, typically within organisations. This interest is borne out by the military roots of OR, the interests of the professional societies promoting OR (starting with the OR Society in the UK, founded in succession to the Operational Research Club which was set up in 1948, see [http://www.orsoc.org.uk/ors/index\\_f.html](http://www.orsoc.org.uk/ors/index_f.html)), and applications of OR in private and public sector organisations in many countries of the world (see OR/MS Societies and Regional Groupings at <http://www.maths.mu.oz.au/~worms/soc/soc.html>).

There were many precursors to OR/MS in the arena of systematic support to the activity of co-ordinating organised work. The *double entry system* of book-keeping developed by the Italian mathematician and friar Luca Pacioli in 1494; Charles Babbage's work on industrial productivity in the UK during the 1830s, the *scientific management* approach of Frederick Taylor in the US since the 1890s, and *time and motion study* (especially the work carried out for the cotton textile industry in the UK by the Shirley Research Institute from the 1920s onwards) could be mentioned among them (Duckworth, 1962, p. 12; Keys, 1991; Kirby and Capey, 1998; see <http://www.arthurandersen.com/> for the history of accounting).

A significant amount of work has been (and is being) done to review the origins of OR and its developments before, through, and after the period of the second world war (e.g., Keys, 1991; Cook and Shutler, 1991; Ranyard, 1995; Kirby and Capey, 1998). These as well as text books and guide books on OR (e.g., Duckworth, 1962; Ackoff and Sasieni, 1968; Budnick, *et al.*, 1988; Hillier and Lieberman, 1990) have characterised OR by its emphasis on *modelling* the real situation in order to identify *optimal* states/levels of an operation.

It is the purpose here to consider how OR adapts the task of science/research to make itself useful in an operational situation. OR workers have tried to give various interpretations to the term 'research' in OR. Daellenbach, *et al.* (1983) have stated: "It is not scientific research, with its connotation of advancing fundamental knowledge in some science. ... The objective is to improve the effectiveness of the system as a whole" (p-1). Hillier and Lieberman (1990) have argued that OR involves creative scientific research into the fundamental properties of operations. They have used the formulation of Ackoff (1956) to argue that the implementation of an OR solution might itself be a test of the hypothesis that the conclusions (solutions) obtained from the model are also valid for the real problem.

OR texts have emphasised the importance of carefully observing the real problem situation (e.g., Hillier and Lieberman, 1990). There does not appear to be much debate within the early OR literature regarding what constitutes data in an OR study although disquieting concerns have been expressed (e.g., Churchman, 1970). Statements obtained from primary and secondary sources within the client organisation (Graham, 1984), and perhaps also from outside, seem to constitute data for OR modelling. One of the characteristic features of OR is the way these data are used. The data are used for the purpose of *modelling*. An OR model is meant to be a 'model of the system' (e.g., Duckworth, 1962, p. 19); it is supposed to 'represent the system' (e.g., Ackoff, 1956); and it is usually a 'formal model' (Pidd, 1991). The information created out of the model is typically called a 'solution' in the idiom of OR.

The ‘solution’ of an OR model refers to a specific *state* of the system, or a specific set of outputs of the model given a specific set of inputs. It is that state (or that set of inputs and outputs) which is supposed to be of special interest to the client organisation—the state that the client organisation might not have identified without the contribution of the OR study.

It is sometimes expected that the activity of OR will result in the generation of knowledge regarding ‘the fundamental properties of operations’ (the expression is from Hillier and Lieberman, 1990, p-5). There is something like a ‘body of knowledge’ in OR which is transferred in professional training, and which continually grows by encompassing new formal models of operations, modelling and solution strategies, as well as consulting skills. OR has strongly emerged as a *profession* in the UK and elsewhere, with all its ramifications, namely membership, training, manifesto, institutional structure, ‘house journal’, etc. (Churchman, 1970; Kirby and Capey, 1998; Ranyard, 1995).

Churchman (1970; 1979) has highlighted what he labels as the ‘irrational’ side of the profession, mentioning the problems of ‘observing a system’, ‘peculiar mixture of attitudes about data’, problem of identifying the ‘whole relevant system’, ‘deeper problem of morality’, opposition to ‘political power structures’, and inflexibility associated with institutionalisation of the profession. Ackoff (1979) has highlighted various inadequacies in the overall scheme of OR, pointing out the difficulties of ensuring the reliability of data, simplifications involved in modelling, short life span of optimal solutions, omission of aesthetics, OR’s ‘pretension’ of interdisciplinarity, and its failure to take all stakeholders into account. That everything might not be going well with the profession of OR, can be gleaned from some of the recent studies concerning the state of the profession (e.g., Fildes and Ranyard, 1997; Ranyard, *et al.*, 1997; Ranyard and Fildes, 1998). Discussions about the characteristics of OR have appeared consistently in the literature for over more than two decades now (e.g., Dando, *et al.*, 1977; Jackson, *et al.*, 1989; Jackson and Keys, 1987; Keys, 1991; 1997; Rosenhead, 1989; White and Taket, 1996.) One of the outcomes of these discussions about the nature of OR has been the emergence of what is now labelled as ‘Soft OR’ (Rosenhead, 1989), which retains the professional model of OR but introduces new features into the *methodology*.

*The following issues might be noted here from the point of view of this review. OR is interested in action, in the sense that it is client-oriented. The objectives of the client determine (though not entirely) what system is to be modelled, what data are to be collected for the purpose, and finally what state of the system is to be identified as the most desirable given the client’s objectives. OR is also interested in research, at least in two different senses. First, at the level of the local, OR is interested in identifying the particular state of the chosen system that would be the most satisfactory in fulfilling the client’s objectives. Second, OR is also interested in strengthening its body of knowledge, i.e., its library of formal models, solution procedures, and its general vocabulary, in an ongoing way. OR/MS certainly appears to offer an approach for action-oriented research—one that highlights the role of formal models in achieving client-oriented results as well as results of wider professional interest.*

#### **4.3.2 Soft Operational Research**

As mentioned before, Soft Operational Research (Soft OR) emerged as a response to deal with certain problems with the OR/MS approach (Rosenhead, 1989). It was noticed during

the 1970s that the traditional OR approach seemed to work well under certain conditions; e.g., it worked where,

- the client organisation was structured in a tight hierarchy;
- few of its members were analytically sophisticated;
- the organisation performed a well-defined task, thus generating reliable data; and
- there was general consensus on priorities (Rosenhead, 1996).

All these point to the difficulties associated with OR practice. There is the problem of identifying what constitute legitimate data in certain situations (e.g., involving ‘ill-structured problems’, ‘wicked problems’, or ‘messes’) (Simon, 1973). Similarly, Soft OR casts doubts on the possibility of a single uncontested representation of a problem situation, thus putting the classical OR notion of modelling in jeopardy. Traditionally OR had served clients like defence organisations, private and public sector organisations, etc., which were formal organisations with rather well-defined structures of roles and relationships. When OR was taken to non-traditional clients such as ghettos, youth clubs, housing co-operatives, community service organisations, etc., there was a difficulty in applying the methods of OR (Rosenhead and White, 1996). Even within formal organisations, sometimes ‘ill-structured’ problem situations (e.g., strategic problems) seem to emerge that make it difficult to apply traditional OR techniques (Rosenhead, 1996).

Soft OR seeks to resolve this difficulty by introducing something else into the situation that might make the situation again like the traditional, whereupon traditional OR might be applied. What is typically introduced is *problem structuring*. It has been argued that sometimes problem structuring (or ‘issue structuring’) might itself be an adequate support to the client, implying that it might not be followed up with more conventional OR modelling.

Different kinds of ‘problem structuring methods’ (PSMs) have been proposed in Soft OR (Rosenhead 1989; 1996). Some of the methods presented in the literature are: Hypergame Analysis, Interactive Planning, Metagame Analysis, Robustness Analysis, Soft Systems Methodology (SSM), Strategic Assumption Surfacing and Testing (SAST), Strategic Choice Approach (SCA), and Strategic Options Development and Analysis (SODA). From the variety of these methods, it would seem that Soft OR might be a broad and general approach to tackle ill-structured problem situations. Therefore, it might be more appropriate for this review to discuss Soft OR in general terms rather than focusing on the specific methods. (One of the methods, i.e., SSM, is reviewed separately, in Subsection 4.3.7, as it seems to have been given special attention in the literature, independent of its association with Soft OR.)

A study of these ‘problem structuring methods’ indicates some of their general characteristics (Rosenhead 1989; 1996). These methods visualise a situation in which there is usually a ‘facilitator’ (or a team of ‘facilitators’) and a client group—typically involving multiple actors, having multiple or unclear priorities, multiple perceptions and uncertainties about the nature of the problems to be addressed, and multiple viewpoints and uncertainties about what would amount to a satisfactory solution. Soft OR methods seem to intervene in this situation with an aim to improve interaction and co-operation among actors, reduce differences in terms of perceptions, preferences, priorities, etc., guide constructive debate among the actors, develop images of desirable future for all the actors involved, orient the actors towards some desirable direction for action, etc. In this effort, different methods seem to contribute differently. Hypergame Analysis focuses on a better appreciation of the differences among the actors. Interactive Planning helps in developing images of the ideal future. Metagame

Analysis structures the interaction among the actors such that there is some coherence in terms of preferences. SSM also structures the interaction among participating actors in order to generate and guide constructive debate especially about feasible and desirable changes in the situation. SAST provides a method for guiding constructive debate about strategies and assumptions with the aim of reducing the differences by mutual adjustments. SCA helps participants identify priority areas by exploring the interconnectedness among decisions and enables them to develop action plans. SODA uses the device of *cognitive mapping* to help participants externalise their perceptions about the problem situation and develop constructive debate about actions to be taken. Robustness Analysis helps the actors maintain useful flexibility while planning for the future despite uncertainties and changing environments.

The approach of Soft OR has been compared with the ‘process consultancy’ approach used within the Organisational Development (OD) literature (Rosenhead, 1989, p. 348). Both Soft OR and process consultancy recognise and emphasise the existing experience and knowledge of the participants as a resource in transforming the group, situation, or organisation. The general strategy used by both approaches is to promote interaction among actors, socialise and purposefully organise the knowledge previously fragmented among the participants, promote thinking and dialogue, and generate commitment towards action. In order to highlight the distinctiveness of Soft OR methods in comparison with OD, Rosenhead has argued the following:

Each member of the PSM family incorporates as a core element the explicit modelling of cause-effect relationships. This gives PSMs their unambiguous operational research identity. It distinguishes them, for example, from non-OR modes of group working, such as organisational development (Rosenhead, 1996, p. 120).

It might be worthwhile to notice that the type of ‘explicit modelling of cause-effect relationships’ in the more conventional OR is expected to produce models that ‘represent the system’, but Soft OR seems to produce a different type of model. For example, the advocates of SODA have clarified the nature of the models they are concerned with:

... we were concerned with finding means of understanding and representing explicitly the way individuals perceive their world, that might be helpful to them in permitting a self-conscious reflective dialogue with their own thinking (Eden, *et al.*, 1979, p. 104).

Interest in Soft OR has revived an earlier interest in exploring the relationships between OR and the social sciences (see *Journal of the Operational Research Society*, **44**, 6, Special Issue on the Interface between OR and the Social Sciences, 1993). One of the aims of this exploration is to identify the conditions for successful interventions, so as to sustain ‘systematic improvement’ in the field of operational research (Eden, *et al.*, 1993, p. 532). Among the various areas of the social sciences, the study of ‘facilitated work groups’ appears to be of particular relevance to Soft OR (Phillips and Phillips, 1993). Following the insight in this area of research, the facilitator seems to have a more active role than a conventional researcher. The facilitator becomes a participant in the group that s/he is facilitating and plays an important role in influencing the process so as to make the group work effectively.

*From this, it would seem that Soft OR might be action-oriented in two different senses. First, Soft OR is client-oriented, as is traditional OR. The outcome of a Soft OR exercise is expected to be useful locally, to the satisfaction of the client body. But, there might be a second sense in which Soft OR is also action-oriented. The Soft OR facilitator is not limited to the somewhat passive role of collecting data and producing representational models. The facilitator has to actively influence the group process in order to make the group become more like a collective capable of acting in solidarity. In every instance of a Soft OR application, there is the expectation of a local outcome that would be valued by the clients, e.g., a structured issue, a decision, a plan, a strategy, etc. Additionally, there is also the potential of an expansion in the tools and techniques for group facilitation, a developing understanding of the conditions of success of the Soft OR approach, and a progressive elaboration of the general vocabulary used in Soft OR type of work, in an ongoing way. As a possible approach to action-oriented research, Soft OR seems to highlight the importance of the researcher's action in actively creating a collective capable of acting in solidarity.*

### **4.3.3 Systems Analysis and Systems Engineering**

The term 'Systems Engineering' is said to have become current in the 1950s (Checkland, 1981; 1989), although quite complex technological systems had been built by people over the ages (e.g., ships, irrigation systems, urban settlements, etc., in ancient civilisations, and later, railway systems, power generation and transmission systems, telephone networks, etc.) Systems Engineering strives to conceptualise in a systematic fashion the general pattern of conceiving, designing, and implementing systems of this type. The process generally starts with the specification of the purpose to be served by the object or system. Systems Engineering then works back from these specifications to design a system that would achieve these specifications using minimum resources, in an efficient and effective manner, without too many negative side effects.

Jenkins (1969) has described the Systems Engineering approach in detail. The notion of 'system' seems important in his account. In this scheme of things, a system could be designed to achieve an overall objective. Systems could have multiple objectives which might be mutually conflicting in some cases, necessitating certain compromises. A system would typically form part of a hierarchy of systems, in which there might be interaction between systems at the same level and at different levels. The functioning of a system would depend on these interactions.

The notion of 'engineering', in Systems Engineering, refers to designing, constructing, 'knitting together', and operating 'works of public utility'. That makes Systems Engineering the activity of conceiving, designing, constructing, 'knitting together', checking, and operating individual systems so that jointly they perform efficiently and effectively as an overall system in pursuit of the prescribed objective.

The role of a systems engineer has been compared with that of a general medical practitioner who is supposed to look after the general health of patients, but might seek specialist medical knowledge from time to time (Jenkins, 1969).

The distinctiveness of Systems Engineering, over engineering *per se*, seems to lie in the broader view it takes in dealing with questions of operational efficiency and effectiveness. It seems to be focused on optimising overall criteria, associated with the functioning of a system. Another distinctive feature of Systems Engineering is that the approach might be



extended to apply over a range of different 'systems', from technological to organisational and societal systems.

The process of Systems Engineering can be visualised in terms of four stages, although these might not necessarily be sequential (Jenkins, 1969):

(i) *Systems Analysis*: This stage involves a definition of the system to be engineered. It involves identification of various sub-systems and their interactions, and the wider system which contains the system being engineered. The objectives of the wider system clarifies the role and responsibility of the system being engineered. This helps clarify the objectives of the system being engineered as well as performance criteria for the system. If objectives cannot be clearly defined in the beginning, analysis can start with a working definition which might be reconsidered later if possible.

(ii) *Systems Design*: This stage involves building a model of the system that is being engineered. The model is built for the purpose of designing actions that will optimise the system. The model is used to compute the values of the performance criteria under different modes of operation, and an optimum solution is sought. A control system is designed to maintain optimal operation of the system under a varied range of conditions, so that the overall reliability of the system's operation would remain at a desirable level.

(iii) *Implementation*: Construction of the designed system is undertaken at this stage. It is necessary to ensure that system builders understand the design in order to deal with uncertainties that might arise during implementation. Various kinds of project scheduling support might be provided to the system builders at this stage.

(iv) *Operation*: At this stage, various kinds of support are provided to the users of the system. Documentation about the system, user manuals, training, etc., are usually provided. Performance of the system is assessed from time to time. Re-optimisation might be needed after a period of time. Continued improvement of the system might be needed in a changing environment.

The sort of thinking embodied by Systems Engineering was also incorporated by a whole group of approaches for systematically achieving prescribed aims in an efficient and effective manner. Many of these approaches were developed during the 1950s and 1960s and were used in areas of engineering, planning and management, public administration, etc. 'Systems Analysis' refers to a class of these approaches said to have been initiated by the RAND Corporation although later developed by many different groups (Checkland, 1981; 1989; Miser, 1995; Miser and Quade, 1985; 1988; see Classic RAND Research page at <http://www.rgs.edu/Classic.html>). Quite like Systems Engineering, Systems Analysis also starts with the statement of an objective or a set of objectives. The steps followed typically involve the identification of alternative systems for achieving the objectives, estimation of the resources required by each of these alternative systems, use of models to assess the efficiency and effectiveness of these alternatives, and choice of one alternative on the basis of some preference criteria.

*Both Systems Analysis and Systems Engineering provide a general way of thinking about practical situations requiring the creation of a system that achieves some pre-defined purpose. This highlights their action-orientation. The research-orientation might be seen in their use of systems and cybernetics ideas (e.g., system, sub-system, environment, self-*

regulation, control, etc.). Research results might be expected with respect to the general characteristics of this particular class of systems, the methods of their optimisation, the conditions of their smooth operation, etc. One of the research results to be taken up later in this review (in Subsection 4.3.7) pertains to the need for extending the research vocabulary associated with Systems Analysis and Systems Engineering to make it more suitable for applications dealing with managerial systems in organisational and social situations (Checkland, 1981, Chapter 5; 1989). As a potential model for action-oriented research, Systems Analysis and Systems Engineering highlight the importance of following a particular image of systems (i.e., those which can be designed, built, and operated to accomplish specified objectives) in conducting practical projects.

#### 4.3.4 Organisational Cybernetics

Organisational Cybernetics has emerged as a management systems approach by adopting cybernetic notions for the purpose of organisational and social management, especially by focusing on the Viable System Model (VSM) postulated by S. Beer (Beer, 1979; 1985; Espejo and Harnden, 1989; Espejo, *et al.*, 1996; Flood and Jackson, 1991a; Jackson, 1991). Besides the VSM, there seems to be a wider discourse on social and organisational cybernetics, around the notions of sociocybernetics, autonomy, autopoiesis or self-production, self-organisation, second-order cybernetics, observing systems, etc. (Achterbergh, *et al.*, 1997; Geyer and van der Zouwen, 1986; Jantsch, 1980; Willke, 1990; see The Challenge of Sociocybernetics at [http://pespmc1.vub.ac.be/Einmag\\_Abstr/FGeyer.html](http://pespmc1.vub.ac.be/Einmag_Abstr/FGeyer.html) and <http://www.unizar.es/sociocybernetics/indice.html>; Autopoiesis Related Web Sites at <http://server.snni.com/~palmer/autopoiesis/websites.htm>). However, from the point of view of management systems, the VSM still seems to remain an important instrument in the operationalisation of the organisational cybernetics approach and has produced a substantial body of management systems literature (the journal *Systems Practice* devoted a Special Issue to this topic in 1990, Volume 3, Number 3). Besides, the current literature related to the VSM seems to reflect some of the ideas of the wider cybernetics discourse (e.g., Harnden, 1990). This review will primarily focus on the VSM-related literature in organisational cybernetics.

Beer has defined cybernetics as ‘the science of effective organization’ (Beer, 1975, p. 425). In Beer’s version of organisational cybernetics, the role of scientific object is played by the notion of ‘viable system’, the postulated archetype of effective organisation. A system is said to be viable if it is able to adapt effectively to environmental changes although the changes are unforeseen. The background research and thinking behind such a notion has been presented in the literature (Beer, 1979; 1984). The VSM might be taken as an elaborate and formal description of the necessary components of a viable system, starting with the notion of an *operational element* (said to be a basic potentially viable system) consisting of an operation (O), in which is embedded a management unit (M), an environment (E) in which both are embedded, and a process of *variety engineering* between O and M, and O and E (Beer, 1979, Chapter 4). Using a notion of *recursion*, the model visualises that a viable system might include a collection of operational elements—together referred to in the model as System 1. A management unit is visualised for the entire System 1 (i.e., the collection), containing Systems 2, 3, 4, and 5, each having specified roles and orientations. This management unit, containing Systems 2, 3, 4, and 5, would look after the co-ordination of operational units (System 2), control and regulation of the affairs of the System 1 giving it a here-and-now orientation (System 3), interaction with the outside environment of the System 1 giving it a future orientation (System 4), and dealing with issues not dealt with by any of

these, e.g., steering a balance between the here-and-now and the future (System 5). These systems and their interactions are elaborated within the VSM, including the necessary communication channels operating between them (Beer, 1979; 1985).

Many applications of the model have been reported (e.g., Espejo and Harnden, 1989). The most common type of application of the model seems to be in diagnosis (e.g., to assess whether a given organisation contains all the elements of the VSM or not). The model has also been applied in designing information systems (e.g., Murthy, 1994) and designing a management structure for complex computer networks (Latin, 1991). The applications have also included studies in which the role, mission, and structure of entire organisations have been clarified using the model (e.g., Flood and Zambuni, 1990; Leonard, 1989). Viable systems thinking has also yielded useful insights for organisational theory, e.g., in reinterpreting the notion of organisational effectiveness (Schwaninger, 1990).

In the recent literature of organisational cybernetics, there seems to be an exploration of alternative uses of the model. There seems to be a new emphasis on the use of the VSM vocabulary in a conversational process within an organisation (Harnden, 1990) and its use as a 'tool for self-constructing organizations' (Espejo, 1996). This exploration is expected to indicate alternative ways of translating the insights of VSM into organisational contexts, rather than imposing the model on the organisational members.

*This area of organisational cybernetics seems to offer many insights for a richer comprehension of action-oriented research. Its reliance on the field of cybernetics is one of its strengths. The manner in which the basic cybernetic notion of a 'self-regulating system' is extended and generalised in terms of a 'viable system' is noteworthy. This does highlight the possibility of deriving a formal model (i.e., the VSM) based on a general notion (i.e., 'viable system') and the possibility of instantiating the formal model in material terms in order to realise local results for specific clients. Obviously, the process might not be as straightforward as it sounds. There could be many uncertainties, speculations, and unknowns involved in it. The literature also indicates the possibility of the general notion becoming something like an imposition in a local situation (Jackson, 1989). The response to this danger in terms of 'conversation' and 'self-construction' seems to be a potentially valuable line of thinking for action-oriented research. Although the literature of action research has consistently emphasised 'participation', recent organisational cybernetics literature seems to highlight the need for participation towards self-constructing something that might be considered as an instance of a general notion—e.g., a 'viable system'. The literature of organisational cybernetics proffers a model for action-oriented research which involves the notion of a formal model, the process of instantiating it in material terms, and an interest in a systematic improvement of both.*

#### **4.3.5 Socio-Technical Systems Thinking**

Herbst (1974) traces the development of Socio-Technical Systems thinking to the coal mining studies carried out in the 1950s in the UK. These studies found that mechanical mining had resulted in the break-up of the small self-regulating work teams in the mines. The new mechanical system compelled the miner to concentrate on a single task. The individual miners' activities were integrated by the mechanical system. Although the performance of each miner was dependent on that of the whole shift, the performance-related rewards were based on piece rates. The studies concluded that the new organisation of work was leading to

psycho-somatic disorders, interpersonal and inter-group conflicts, often accompanied by mutual scapegoating, absenteeism and, overall, a low performance.

Trist and Bamforth (see Herbst, 1974, Chapter 1), who had reported the first coal mining study in 1951, had interpreted the situation through a model that introduced the basic notion of a *socio-technical system*. According to them, the quality and the quantity of output in any work organisation depended on two distinguishable aspects of the organisation: the technological system and the social structure of the work system. They viewed the psycho-somatic disorders, and interpersonal and inter-group conflicts observed in the organisation as a consequence of the social structure of the work system. They hypothesised that the social structure of the work system was partly influenced by the technological system. This led them to formulate the notion of *joint optimisation*, i.e., optimising the performance of the work organisation by modifying both the technical and social systems in a suitable way. The notion of *organisational choice* began to emerge after a second series of coal mining studies carried out by Trist and his collaborators. The notion highlighted the degree of choice available to an organisation with respect to the type of form it could take, for a given production technology. Later in the 1960s, especially after the socio-technical thinkers became involved with the Industrial Democracy Project of Norway (Thorsrud, 1977), the notion of *technological choice* began to be discussed.

The notion of technological choice suggested that the production technology need not be taken as a given for any organisation; it could be chosen from the point of view of fulfilling certain objectives other than purely technological. This involved the notion of the ‘social ecology of industry’. The basic search seemed to be for a way of jointly optimising the technological and the social systems of work organisations such that, *locally*, the work organisation performs satisfactorily without creating human costs in the form of psycho-somatic disorders, and interpersonal and inter-group conflicts, etc., and *globally*, it leads to a ‘social ecology of industry’ that supports such jointly optimal work organisations.

This type of focus led the socio-technical thinkers to realise that organisations might be viewed as open systems which had to survive in different types of environment, some of which might not be passive or undifferentiated (Emery and Trist, 1965). They have observed cases which illustrated ‘what is meant by the environment becoming organised at the social level’. Describing the plight of a vegetable canning company that had invested a very high amount of money in a new factory only to find that its market share was dropping quickly while the factory was being built, Emery and Trist have argued:

They [the managers] failed entirely to appreciate that a number of outside events were becoming connected with each other in a way that was leading up to irreversible general change (Emery and Trist, 1965, p. 24).

Following this line of thinking, Emery and Trist have proposed four ideal types of organisational environment, namely *placid randomised*, *placid clustered*, *disturbed reactive*, and *turbulent* environments. They have argued that the survival of an organisation would depend upon the compatibility between its strategy and the type of environment it confronts. In the latter three types of environment, the survival of an organisation would depend upon what other organisations in its environment do. In the placid clustered situation, survival becomes critically linked with what an organisation knows about its environment. But, this strategy does not work in a disturbed reactive situation, where what one knows can also be potentially known by the others in the environment. Therefore, the struggle for survival

would include calculating reactions of the others, and planning counter-actions, in a game-like affair. In turbulent environments, 'the "ground" is in motion', where organisational actions and interactions might lead off in unpredictable ways, and where actions and their results might not remain linked in clear patterns. Emery and Trist have given an interesting proposal to deal with the vagaries of turbulent environments. According to them, a possible solution to this is the *emergence of values* that have overriding significance for all members of the field. In this they have used the Lewinian notion of 'power fields'. It is the emergence of such fields which would make the environment 'simplified and relatively static' again.

*The development of thought on Socio-Technical Systems suggests some fundamental insights concerning action-oriented research. Different types of action-orientation are involved here. Like the other management systems approaches, there is a client-orientation. Positive local outcomes are expected from proper organisational or technological choice. It should, for instance, improve performance, reduce human costs, etc. But, insights in this literature indicate how and when such local improvements cannot be sustained, e.g., in reactive and turbulent environments. Socio-Technical Systems thinking suggests that research should contribute not merely through local improvements, but also by indicating how to deal with the situation where attempts at local improvements do not seem to have the desired effect. One of the proposals is to identify methods of interaction among organisations such that something like a 'power field' develops which makes the situation again conducive to the pursuit of local improvements. This appears crucially significant in thinking about action-oriented research especially because it highlights that a systematic pursuit of local improvement might sometimes require interventions outside the local.*

#### **4.3.6 System Dynamics**

J. Forrester pioneered the System Dynamics (SD) approach around 1958 (Dash, 1994; Flood and Jackson, 1991a; Forrester, 1958; Keys, 1990; see Jay W. Forrester page at <http://sysdyn.mit.edu/people/jay-forrester.html>). The early formulation of the SD approach involved the use of the concepts and ideas of Control Theory and Control Engineering in management and decision making. The approach was aimed at rectifying what Forrester perceived as the then prevailing tendency to view management issues as isolated problems at isolated points in time. Subsequently, Forrester elaborated on the potential application of SD for decision making and policy analysis in industrial organisations (Forrester, 1961), in urban planning (Forrester, 1969), and in world-level policy issues (Forrester, 1971, Meadows, *et al.*, 1992).

SD is primarily orientated towards identifying (defining), modelling, and simulating a system (e.g., a factory, a city, an economy, or even an entire ecological system) in order to explicate how the system might behave under different policy regimes. The SD modelling approach makes use of notions like levels, rates, constants (parameters), physical flows, information flows, discrepancies, delays, loops, non-linearities, control strategies, etc. Typically, models are developed by first developing an *influence diagram* (also called a *causal loop diagram*), then elaborating it by means of a flow diagram, and finally encrypting it in some appropriate computer simulation language. Many computer applications have been developed to build SD models and simulate model behaviour under various policy regimes. Some of the applications used currently are Stella®, iThink® (see both in High Performance System pages at <http://www.hps-inc.com/>), and Vensim® (see Vensim pages at <http://www.std.com/vensim/>).

The SD approach deals with ‘dynamic systems’, i.e., aggregates of physical and abstract entities which are distinguishable from their surrounding environment as purposive wholes and which exhibit dynamic behaviour. The approach recognises that certain dynamic systems might behave in a counter-intuitive manner, i.e., an unexpected manner, especially due to the way such systems might be constituted. By trying to model dynamic systems and simulating them on a computer, the SD approach seeks to predict their behaviour pattern.

Many applications have been reported in the literature, especially in the journal *System Dynamics Review*. Some of the applications have been in complex forecasting, e.g., in forecasting the year in which world petroleum oil production will reach its peak (see World Oil Forecasting Program page at <http://www.halcyon.com/duncanrc/index.html>), in improving the management of the commercial software development process (see Software Process Modeling with System Dynamics pages at <http://www-rcf.usc.edu/~madachy/sd/>), modelling ecological systems for the purpose of planning (see, e.g., Landcare System Dynamics pages at <http://www.agfor.unimelb.edu.au/LSD/links.html>), designing information and control systems in a colliery (Wolstenholme, 1990, Chapter 7), evaluating management information systems (Wolstenholme, *et al.*, 1993), studying the interactions of local structures and decision-making policies in the US economy (see MIT System Dynamics Group pages at <http://sysdyn.mit.edu/sd-group/home.html>), improving educational processes by using SD models (see System Dynamics in Education pages at <http://sysdyn.mit.edu/home.html>), etc.

One of the success stories of SD-type feedback modelling was that of FOSSIL2, an integrated model of energy supply and demand in the United States of America, which has been used to prepare projections for energy policy analysis in the US Department of Energy (Nail, 1992). The model has shown, *inter alia*, that the expected reduction in oil imports under the National Energy Plans might not be achievable.

The literature in this area seems quite diverse. One particular strand among those distinguishable in the literature pertains to *organisational learning* (Senge, 1990; Senge and Sterman, 1992). Although some of the basic notions of the SD approach are still used in this strand of literature, the guiding notion does not seem to be a ‘dynamic system’ any more. The focus seems to have shifted to the use of the ‘dynamic systems’ language for the purpose of creating ‘learning laboratories’:

Our research attempts to develop learning processes aimed at (1) improving managers’ shared mental models so that they become more systemic and more dynamic, and (2) developing managers’ abilities to view new situations systemically and dynamically (Senge and Sterman, 1992, p. 139; also see Learning Laboratory Projects pages at <http://learning.mit.edu/prapro/learnlab.html>).

*The SD approach seems to have a number of suggestions for action-oriented research. In its earlier form, the SD approach sought to create value for its clients by providing them with superior policy insights. The process was also expected to contribute to the general fund of knowledge about ‘dynamic systems’, e.g., in terms of ‘generic structures’, control strategies, etc. In the learning-oriented applications of SD, clients are expected to benefit from participating in learning laboratories, e.g., by developing dynamics-related insights, shared mental models, etc. Even these applications are not entirely limited to local improvements. In such applications, the power of the ‘dynamic systems’ language is demonstrated, and*

*the language itself might be expected to develop as a result, e.g., in terms of its symbols and the range of interactions it makes possible. The 'dynamic systems' vocabulary seems to reinforce the SD approach, whether the approach is used for policy analysis or, more actively, for creating 'learning laboratories'.*

#### **4.3.7 Soft Systems Methodology**

Soft Systems Methodology (SSM) is said to be a development from Systems Engineering (Checkland, 1981; 1989; Checkland and Scholes, 1990; see SSM Internet Resource Page at <http://www.bf.rmit.edu.au:81/~andrewf/ssm-res.html> ). One of the basic starting points of Systems Engineering, i.e., the specification of the purposes to be served by the system to be built, was found difficult to secure in a range of situations which nevertheless required the securing of some type of improvement. Instances of such situations were obtained in 'messy, changing, ill-defined problem situations with which managers have to cope in their day-to-day professional lives' (Checkland, 1989). In such situations, SSM seeks to introduce a process typically described as a never-ending cycle of learning, which might be implemented at the level of an individual or a group representing one or more organisations, professions, communities, etc. (Checkland, 1995).

In SSM, a situation is viewed as a product of history of which no unique account is usually possible. A situation is expected to contain some 'would-be improvers' of it, who are likely to have various perceptions of the situation, of the purposes being pursued in the situation ('tasks'), and of the various things about which there are disagreements ('issues') (Checkland and Scholes, 1990, p. 28). These tasks and issues are typically used in SSM to develop 'root definitions', i.e., definitions of a relevant system that is consistent with a particular view of the situation. Each definition is then elaborated in the form of a 'conceptual model', which spells out the necessary activities required to fulfil the task identified in the root definition or to deal with the issue. It is clear from the ever-growing literature on SSM applications that the conceptual models are normally based on the generic notion of a 'self-regulating system'. (See, for example, the characteristic 'monitor' and 'take control action' activities that constitute the feedback in the model in Figure 2.11; Checkland and Scholes, 1990, p. 40).

The use of a conceptual model in SSM is quite different from that in Systems Engineering. Unlike in Systems Engineering, a conceptual model designed here is not meant to be implemented and operated. It is used, alongside a number of other conceptual models (arising out of different views in the situation) to orchestrate a type of debate among the 'would-be improvers' who participate in the SSM process. The debate requires participants to compare the conceptual models with what they perceive the actual situation to be and arrive at an 'accommodation' on what changes could be brought about in order to improve the situation.

Many applications of SSM have been reported (Checkland 1981; Checkland and Scholes, 1990; see past issues of the *Journal of Applied Systems Analysis*). Applications include redesigning of the role, structure, and activities of a department in an organisation (Checkland and Scholes, 1990; Chapter 3), developing a more comprehensive way of evaluating the performance of a particular specialist service within a wider health service system (*ibid.*, Chapter 4), redesigning the role and organisation of a public sector agency (*ibid.*, Chapter 5), reorienting the focus and activities of a division or function within a business and clarifying how a decision support system (DSS) might be designed for the division (*ibid.*, Chapters 6, 9), using SSM to define, plan, and manage major organisational change programmes (*ibid.*, Chapters 7 and 8), etc.

Reflecting about the role the SSM approach plays in a project, Checkland and Scholes have commented that:

... the role of the approach is akin to that of the cavalry in nineteenth-century war: it can add a certain tone to what might otherwise be a vulgar brawl (Checkland and Scholes, 1990, p. 302).

Development of SSM is said to be predicated on the difficulties of using the image of a self-regulating system in order to address problematic organisational situations so as to secure some improvement. The SSM literature indicates the potential of alternative images, e.g., that of an *appreciative system* (Checkland, 1995; Checkland and Casar, 1986), a *learning system* (Checkland, 1985), or a *system of inquiry* (Checkland and Scholes, 1990, p. 18).

SSM can lead not only to purposeful action to improve a problem situation; more generally, it also helps to orchestrate the process of ‘appreciation’ in Vickers’s sense, sharpening views and making choices of action more explicit (Checkland and Scholes, 1990, p. 147).

Whereas systems engineering methodology is a system concerned with achieving objectives, SSM is a learning system (Checkland, 1989, p. 78). (The ‘is’ appearing twice in this statement might be interpreted as ‘articulates and helps to bring about’.)

What was found to be needed was a broad approach to examining problem situations in a way which would lead to decisions on action at the level of both ‘what’ and ‘how’. The solution ... was *a system of inquiry* (Checkland and Scholes, 1990, p. 18, emphasis in the original).

*To the extent that an ‘appreciative system’ or a ‘learning system’ or a ‘system of inquiry’ is viewed as a more general type of notion than a ‘self-regulating system’, SSM thinking might be regarded as a creative enlargement of systems and cybernetic thinking (this point has been emphasised in Checkland and Holwell, 1998a, p. 158). It seems that SSM has a lot to offer as a potential model for action-oriented research. Unlike in the Operational Research (OR) or Systems Engineering approaches, in SSM the client is not always a unitary authority who could prescribe what objectives must be pursued. Therefore, in order to be client-oriented, SSM has devised a set of action-like steps (akin to problem structuring of Soft OR) in order to ‘add a certain tone’, or to create a client, as it were! But unlike Soft OR, SSM emphasises a repetition of the procedure. The repetition aims to achieve continuous learning (or ‘appreciation’) and maintenance of the ‘accommodation’ against disturbances. An explicit ‘framework of ideas’ and a ‘recoverable’ research process are regarded by the developers of SSM as central to any research (Checkland, 1991; 1995; Checkland and Holwell, 1998b). (There will be occasion to review the research thinking of SSM in more detail in Chapter 5.)*

#### **4.3.8 Critical Systems Heuristics**

Critical Systems Heuristics (CSH) (also labelled Critical Heuristics of Social Systems Design or Critical Heuristics in short) has been proposed by Ulrich (1983; 1987). Discussions on CSH by other writers are also available (e.g., Flood and Jackson, 1991a; Jackson, 1991; Schecter, 1991). CSH provides a method to be used by planners (as well as affected citizens)



to practise practical reason, i.e., ‘to lay open, and reflect on, the normative implications of systems designs, problem definitions, or evaluations of social programmes’ (Ulrich, 1987). The notion of normative implication refers to the values about the social consequences and side effects that enter the process of planning and designing social programmes. This hints at the difficulties of dealing with values in conducting research and applying research results in the social domain. CSH might be interpreted as constituting a special type of response to these difficulties. The response involves a kind of safeguarding against the potential harms of the value components that invariably enter the process of creation and utilisation of knowledge.

Like SSM, CSH also appears to view the givenness of the purposes in Operational Research and Systems Engineering as problematic (Jackson, 1991, p. 188; Ulrich, 1988). The aim of CSH is to help people discuss this givenness in practical situations of planning and deliberate on what *ought to be* done. *CSH does not provide a way to identify ‘the right’ purpose, but does provide a method by which purposes (or presuppositions) and their inevitable partiality might be kept constantly under review.*

CSH recognises that every systems design involves ‘boundary judgements’, e.g., judgements with respect to the ‘value basis’, ‘basis of power’, ‘basis of know-how’, and ‘basis of legitimation’ involved in the design (Jackson, 1991, p. 191; Ulrich, 1987, p. 279). The heuristic consists of interrogating any given design in order to make explicit its normative bases (i.e., the four types of basis mentioned above, typically linked with the following four categories: client, decision maker, planner, and witness). Three types of question are framed for each of the bases, thus resulting in 12 questions. The 12 questions are asked in two modes: ‘is’ and ‘ought’ modes. These questions (in the ‘ought’ mode) are reproduced below:

1. Who ought to be the *client* (beneficiary) of the system S to be designed or improved?
2. What ought to be the *purpose* of S, i.e., what goal states ought S be able to achieve so as to serve the client?
3. What ought to be S’s *measure of success* (or improvement)?
4. Who ought to be the *decision taker*?, that is, have the power to change S’s measure of improvement?
5. What *components* (resources and constraints) of S ought to be controlled by the decision taker?
6. What resources and conditions ought to be part of S’s *environment*, i.e., should not be controlled by S’s decision taker?
7. Who ought to be involved as the *designer* of S?
8. What kind of *expertise* ought to flow into the design of S, i.e., who ought to be considered an expert and what should be his role?
9. Who ought to be the *guarantor* of S, i.e., where ought the designer seek the guarantee that his design will be implemented and will prove successful, judged by S’s measure of success (or improvement)?
10. Who ought to belong to the *witnesses* representing the concerns of the citizens that will or might be affected by the design of S? That is to say, who among the affected ought to get involved?
11. To what degree and in what way ought the affected be given the chance of *emancipation* from the premises and the promises of the involved?
12. Upon what *world-views* of either the involved or the affected ought S’s design be based? (Ulrich, 1987, Table 1)

The answers to the questions are expected to inform the process of argumentation between ordinary citizens on one side and presumed ‘experts’ like planners, scientists, and decision takers on the other.

Three key concepts are said to inform CSH. These are: (i) Justification break-offs as boundary judgements, (ii) *a priori* concepts of practical reason, and (iii) polemical employment of boundary judgements. The 12 heuristic questions, when used in a practical situation, make explicit the justification break-offs which are usually hidden, using *a priori* concepts such as ‘value basis’, ‘basis of power’, ‘basis of know-how’, and ‘basis of legitimation’, and are potentially capable of being used in a polemical way—enabling ‘ordinary people to expose the dogmatic character of the expert’s objective necessities’ (Ulrich, 1987).

CSH is expected not only to create an advantage of argumentation for the affected people, but also to be a tool for ‘experts’ and ‘applied scientists’ to deal critically with their ‘justification break-offs’, i.e., the point in an argumentation where the premise cannot be justified any further. It ‘seeks to render them more self-reflective and democratically minded with respect to their quest for improvement’ (Ulrich, 1996b).

As long as he does not learn to make transparent to himself and to others the justification break-offs flowing into his designs, the applied scientist cannot claim to deal critically with the normative content of these designs (Ulrich, 1987, p. 277).

Commentators on CSH have interpreted it as a potential contribution to the extension of the OR philosophy (Flood and Jackson, 1991a; Jackson, 1991). CSH seeks to counter any imposition of plans and designs and the associated rationality by one group of people over another group of people; it aims at orchestrating a systematic debate between opposing points of view; and it seeks to unravel the bases on which opinions are formed. Using the language of cybernetics, it might be said that while CSH does not deny the possibility of goal-seeking (or value-oriented) behaviour in social situations, it does highlight the partiality of goals and values. The remedy comes in the form of a process (that is argumentative in nature) that would keep these goals and values under perpetual review. *The image that comes to mind is that of an ‘intelligent thermostat’ that would keep the target temperature under constant review, not on its own, but through a process of argumentation with the relevant others* (see Subsection 3.3.2 on Action Science). Ulrich has provided a similar image in envisioning a ‘future-responsive management’ or a ‘future-responsive systems design’ that requires the creation of appropriate institutional arrangements to promote critical debate among differing perspectives about the preferred designs for the future (Ulrich, 1994).

One such arrangement has been suggested and practically tested by Peter Dienel [references provided] in Germany, namely the planning cell (Planungszelle). It has been successfully used for developing citizen reports on technological projects (Bürgergutachten). Using statistical rules for random sampling or other procedures that ensure a representation of different concerns, a government body invites citizens to serve on a committee that examines design proposals and comes up with suggestions for better designs (Ulrich, 1994, p. 31).

Ulrich goes on to elaborate the difficulties of argumentation within institutional arrangements like the above where different perspectives about the ideal future encounter each other. He has suggested CSH as an appropriate form of communication that might serve to deal with these difficulties.

CSH seems to offer many lessons for action-oriented research. Ulrich, the main developer of CSH, has commented about the similarities and differences between CSH and action research (Ulrich, 1996b) and has proposed a way to use CSH within action research (Ulrich, 1996a). Ulrich has argued that CSH might bring some methodological *rigour* into action research. From the point of view of this review, the notion of ‘future-responsive systems design’ (or to slightly modify it, ‘future responsive system’) is recoverable as a potentially more general type of notion than either ‘self-regulating system’ (Ulrich, 1981; 1988) or even a ‘learning system’ (Ulrich, 1988), as the latter two types of system do not deal with the ‘conditions of imperfect rationality’. It seems that the sort of system Ulrich has envisaged would have the ability to learn not ‘monologically’ but in a process of communication (or argumentation) with the relevant others in the environment. *However, for such a system to be instantiated (e.g., in the form of a planning cell) there would be the need for an appropriate form of communication within the system, and between the system and its environment.*

*This perspective does seem to offer a way, howsoever preliminary, to address the tension between the local and the global in action-oriented research. Local interventions can have effects outside the local. These effects might not always be positive for the various relevant others in the environment. CSH suggests that the difficulty might be handled by devising suitable forms of communication (perhaps, forms of argumentation) within the local and between the local and its environment. The effect of this process would be a discursively maintained boundary judgement that guides and informs the local improvement effort.*

#### **4.3.9 Total Systems Intervention**

Total Systems Intervention (TSI) is said to be a method of operationalising the main principles of Critical Systems Thinking (Flood and Jackson, 1991b, Chapter 16). Critical Systems Thinking (CST) itself seems to be a result of visualising new directions in management science (Jackson and Keys, 1987; Jackson, 1991; Flood and Jackson, 1991a; 1991b). The first elaboration of TSI had appeared in 1991 (Flood and Jackson, 1991a). Since then a number of different characterisations of TSI and CST have emerged, some of which might not be fully compatible with each other (Flood, 1994; 1995a; 1995b; Flood and Romm, 1996b; Jackson, 1997). Therefore, for the purpose of this review, a somewhat broad picture is presented, especially from the point of view of what insights might be secured for action-oriented research. TSI was initially described in the following terms:

Total Systems Intervention (TSI) represents a new approach to planning, designing, “problem solving” and evaluation. The process employs a range of systems metaphors to encourage creative thinking about organisations and the difficult issues that managers have to confront. These metaphors are linked through a framework, the “system of systems methodologies”, to various systems approaches, so that once informed agreement is reached about which metaphors most thoroughly expose an organisation’s concerns, an appropriate systems-based intervention methodology (or set of methodologies) can be employed. Choice of an appropriate systems methodology will guide “problem solving” in a way that ensures that it addresses what are found to be the main

concerns of the particular organisation involved (Flood and Jackson, 1991a, p. 45.)

From this (and also from a detailed study of the TSI literature) it would seem that the TSI approach does not belong to the same category as Operational Research, Systems Engineering, Organisational Cybernetics, Soft Systems Methodology, Critical Systems Heuristics, etc. Each of these latter approaches seems to visualise a type of system, e.g., 'self-regulating system', 'viable system', 'learning system', 'future-responsive system', etc., or a type of systemic effect, e.g., self-regulation, self-maintenance, learning, 'accommodation', discursively maintained boundary judgement, etc., and describe the means (methods, methodologies, forms of communication, heuristics, etc.) of creating such systems in a given practical context to achieve local outcomes of value to some clients. TSI does not seem to operate with this type of a logic. On the other hand, TSI seems to put forward a way of using judiciously the various management systems approaches in practical situations, perhaps aiming to fill a gap in the literature in this area. To do this, it needs a framework of ideas that would guide the TSI way of using the systems approaches. Such a framework of ideas, or a theory for the use of systems approaches seems to be offered by CST, seeking for example to avoid 'authoritarian usage [of systems approaches] by powerful decision makers' (Jackson, 1991, p. 201)

The theory for the use of systems approaches that CST seems to embrace involves two broad elements: (i) *certain commitments* (critical awareness, social awareness, dedication to human emancipation, complementarism at the theoretical level, and complementarism at the methodological level) and (ii) *a scheme for classifying the systems approaches* (on two dimensions: simple-complex and unitary-pluralist-conflictual, resulting in six ideal types) (Flood and Jackson, 1991a; Jackson 1991, Chapter 7).

As might be expected, when there is a theory for the use of any approach, it becomes possible to disagree with the theory by devising some alternative type of use (Cummings, 1994), or using the approaches 'obliquely'—to use a term coined by Flood and Romm (1996b). In fact, most of the current discussions about TSI and CST in the management systems literature seems to be dealing with this difficulty: How to establish the academic and practical superiority of a 'theory for the use of'? One type of answer seems to suggest that there might not be any global criteria at all (Cummings, 1994). However, certain criteria have been explored by others. The notion of 'learning' has been used in order to address this question. On this view, a version of CST is preferable because when its prescribed 'theory for the use of' is followed, it would generate the 'greatest possible learning' (Flood and Romm, 1996b)—a claim difficult to establish. The notion of 'flexibility' has also been used to tackle this question. Accordingly, a version of CST would 'ensure maximum flexibility in an intervention' (Jackson, 1997, p. 6)—again a claim difficult to establish.

Following G. Morgan, Jackson (1989; 1997) has called for *reflective conversation* among the management systems perspectives (or 'paradigms' in the TSI vocabulary). Indirectly, this seems to be a call for developing new languages (or other communicational devices) that would allow such conversation among systems languages contributing to their concurrent evolution. *If the management systems approaches are interpreted as offering diverse alternative 'frameworks of ideas' and 'methodologies' for doing action-oriented research, then TSI/CST seems to pose the problem of dealing with this diversity.*

*The literature of TSI/CST seems to be quite instructive for thinking about action-oriented research. If the latter is going to involve 'methodologies' in the sense used in the management systems literature, it would come up against issues similar to those debated in the TSI/CST literature. Furthermore, if action-oriented research is going to involve general notions or vocabularies or multiple 'frameworks of ideas' to guide and develop research practice, it would have to deal with the problems of methodology choice, learning, flexibility, reflective conversation, development of languages, etc., in order to allow a concurrent evolution of these 'framework of ideas' and the associated models, languages, 'methodologies', etc.*

## **4.4 Management Systems and Action Research**

The review set out to explore how the two types of orientation, i.e., research-orientation and action-orientation, intermesh within management systems thinking. The exploration seems to have yielded a number of interesting results. These results will be recapitulated in this section in terms of different types of action-orientation and research-orientation recovered from the literature of management systems. These will be used to develop the discussion about action research presented earlier in Section 3.4.

### **4.4.1 Action-orientation in Management Systems Thinking**

Different types of action-orientation were found in the management systems literature. All the management systems approaches reviewed here are oriented towards bringing about some improvement in a practical situation according to some relevant local criteria. Therefore these approaches might be seen as forms of support given to some relevant set of actors in a practical context of action. However, based on the form of support, different types of action-orientation can be found in these approaches. Some of the approaches strive to produce the necessary information, knowledge, structure, system, etc., that might be used by the relevant actors (who are being supported) according to their own purposes. Some other approaches strive to orchestrate processes where new purposes, even new actors, might emerge and be supported.

In the Operational Research (OR) approach, the objectives of the client determine what system would be modelled. Once the objectives and the system are identified, the methodology of OR clarifies what data would be collected and finally what state of the system would be identified as the most desirable (or optimum). In this case, the objectives of the clients are taken as external to the form of support that is provided. However, the Soft OR approach seeks to 'structure' problems (or issues) such that the clients can come to a better understanding, an accommodation, a decision, a strategy, etc. The Soft OR facilitator actively influences the group process in order to make the clients become more like a collective, capable of acting in solidarity. This is akin to the creation of a new actor, in this case the collective actor.

Both Systems Analysis and Systems Engineering (SA/SE) strive to contribute in practical situations by creating a system that achieves some pre-defined purpose. The purpose is external to the SA/SE approach; it comes from the client. In that sense, it is similar to the OR approach. Soft Systems Methodology (SSM) in contrast strives to produce the purposes that might be pursued in the context. It also aims at some type of capacity building among the

relevant actors so that they are able to appreciate their situation and intervene in it in an ongoing manner, as if to create and maintain their collective actorship.

In the applications of VSM, the client organisation improves its fitness to deal with its environment. This is expected to enhance the capability of the client organisation to pursue its purposes as identified from time to time. The VSM itself does not dictate what purposes the viable organisation ought to be pursuing. However, in the more recent adaptations of Organisational Cybernetics, there is an interest in producing the capabilities for new types of action, e.g., through the creation of 'self-constructed organisations'.

The Socio-Technical Systems approach seeks to produce positive local outcomes by helping the client organisation make proper organisational or technological choice. The aim is to reduce human costs, improve performance, etc. This might be seen as a form of capacity building within the client organisation. This type of support might take either of the two forms discussed above. Consequently, the existing actors might be supported through better organisational/technological systems, or new actors might emerge through organisational change or inter-organisational co-operation.

The System Dynamics (SD) approach seeks to create value for its clients by providing them with dynamics-related insights about their situation, helping them develop shared mental models, etc. The SD-based 'learning laboratories' provide the participants with a space for experimentation, understanding, learning, etc. This seems to provide both the possibilities: supporting actors through better observation of the dynamics of a situation and creating new actors through the effect of learning, developing shared mental models, etc.

The CSH approach seeks to improve the ability of its users to participate in debates about plans and designs imposed on them. The aim is to produce new actors (e.g., a planning cell) who keep their actions under constant critical review.

Finally, the TSI/CST type of thinking recognises the potential contribution of the above management systems approaches in improving practical situations. It focuses on the difficulties of choosing the appropriate form of support in any given situation.

The two types of action-orientation can now be articulated:

- *In the first type of action-orientation, the purposes of some actors are taken as given. The action-orientation involves producing the relevant information, knowledge, system, etc., that would support the actors in pursuing their purposes. In this type of action-orientation, the actors' purposes, intentions, and actions which are supported, are external to the form of support that is provided. In other words, the system analyst's actions and the actors' actions are by and large distinguishable.*
- *In the second type of action-orientation, there is a process of constitution of a new purpose, or a new actor. The new purpose or new actor is expected to emerge through 'issue structuring', 'accommodation', 'conversation', 'self-construction', 'critical debate', etc. That which emerges might have certain qualities, e.g., it might be 'viable', 'future-responsive', etc. In this type of action-orientation, the system analyst's actions and the client's (and other actors') actions are subsumed under the process of constitution of the new context. The client, the other relevant actors, as well as the analyst are more like participants in this process.*

#### 4.4.2 Research-orientation in Management Systems Thinking

Different types of research-orientation are found in the management systems literature. Although the management systems approaches are oriented towards creating some value in the context of application, none of the approaches reviewed here *guarantee* any form of success. Some of the approaches are explicit about the conditions under which the approach might not work effectively. For example, Socio-Technical Systems thinking indicates that organisational strategies might not work under *reactive* and *turbulent* environmental conditions. There seems to be a critical literature around most of the approaches, indicating where and how an approach might or might not work (e.g., Brocklesby, 1994; Dickover, 1994; Rosenhead, 1996). There seems to be an attempt to produce new versions of existing approaches in order to increase the chances of their success in application (e.g., Checkland and Scholes, 1990; Flood, 1995a; Harnden, 1990). A closer look at the literature does reveal a number of research-oriented concerns.

The OR approach seems to be research-oriented in at least two different senses. First, at the level of the local, it is interested in identifying the particular state of the chosen system that would be the most satisfactory in fulfilling the client's objectives. Second, the literature pertaining to the OR approach also points towards a systematic extension of its own library of formal models, solution procedures, and its general vocabulary, in an ongoing way. It has also maintained a critical debate about its methodology. Adaptations to the methodology of OR can be found within the discussion about Soft OR. This is found to be a feature of many of the management systems approaches reviewed here. The Soft OR approach also seems to combine an interest in producing locally relevant results with an interest in a systematic expansion (and improvement) in the tools and techniques for group interaction, group facilitation, etc., besides an improvement in its general vocabulary and its basic framework of thinking.

The research-orientation of SA/SE approaches might be seen in their use of systems and cybernetics ideas. These approaches strive to build instances of *systems* which need to be operated and maintained by people towards some practical end. Research results from such activity might be expected with respect to the general characteristics (and limitations) of such *systems*. Indeed, the application of SA/SE approaches to managerial problems and the associated critical debate has contributed to the research thinking in this area in a number of interesting ways. The development of the Soft Systems Methodology (SSM) and soft systems thinking in general is said to be a result of this. More specifically, the ideas of 'appreciative system' and 'learning system' as a basis for research in organisational and social situations have emerged from this.

The research-orientation in Organisational Cybernetics derives from the field of cybernetics. Organisational Cybernetics has extended the basic notion of a 'self-regulating system' by generalising it in terms of 'viable system'. The more recent reformulations in organisational cybernetics appear to strive for a different type of research-orientation (see Subsection 4.3.4). Properties like 'viability', 'autonomy', etc., are now sought to be attained through processes of participation, conversation, and 'self-construction'. The new contexts these processes help create might be viewed as somewhat analogous to research results, although grounded locally. The literature in this area seeks to identify ways of systematically studying and improving these processes so as to increase the chance of their success in future applications.

Socio-Technical Systems thinking indicates how the pursuit of local improvements might be thwarted in *reactive* and *turbulent* environments. It suggests that research should contribute not merely through local improvements, but also by indicating how to deal with the situation where local improvements do not seem to have the desired effect. The proposal in this area is to identify methods of interaction among organisations such that something like a ‘power field’ develops which makes the situation again conducive to the pursuit of local improvements. This type of research-orientation might be compared with the recent reformulations in organisational cybernetics, where methods of interaction are being sought which would bring forth certain desired types of systemic effect.

The SD approach seeks to contribute to the general fund of knowledge about ‘dynamic systems’, e.g., in terms of ‘behaviour patterns’, ‘generic structures’, control strategies, etc. In the learning-oriented applications of SD, the power of the ‘dynamic systems’ language is demonstrated. The ‘dynamic systems’ vocabulary seems to reinforce the SD approach, whether the approach is used for policy analysis or, more actively, for creating ‘learning laboratories’ or ‘micro-worlds’.

SSM and the associated thinking has been regarded as a creative enlargement of systems and cybernetic thinking. It has produced a body of literature on the nature of research in the social domain and the possibility of using alternative ‘frameworks of ideas’ in conducting research for situation improvement. *One of the main lessons from this literature seems to be the point that these ‘frameworks of ideas’ do not have to be veritable representations of how the world might be like, but the frameworks should only allow a researcher to carry out research even when different types of world are obtained. It emphasises the importance of the need to make the framework as explicit as possible, develop ‘methodologies’ to instantiate the framework, instantiate the framework in practical contexts, demonstrate its contribution in such practical contexts, improve the framework and the ‘methodologies’ in a programmatic way, etc.* Besides these general insights, the SSM literature also hints about the potential of a research framework that might be built around the basic notion of an ‘appreciative system’ (or a ‘learning system’ or a ‘system of inquiry’). The power of this notion has been related to its greater generality compared to the notion of a *system* as used in the SA/SE approaches. In implementing the notion of ‘appreciative system’, SSM provides a way for the actors in a situation to function together (as a team, or collective, as if like a new actor) by ‘appreciating’ their context, generating ‘accommodation’ about the broader directions for action, and generating the appropriate actions themselves. The process is supposed to be never-ending. This implies that the emergent capacity to act together is not self-maintaining; it requires continuous effort (e.g., learning) in order to be maintained (and presumably developed).

The CSH literature seems to highlight an important difficulty associated with the frameworks of ideas used for research and action in worlds which do not conform to representational frameworks. Sometimes, merely instantiating such (non-representational) frameworks might amount to an imposition on some people. The traditional research thinking deals with such issues by trying to limit itself to representational frameworks alone. CSH seems to propose a way to deal with the situation where the representational frameworks are not (yet) found, but some form of systematic support to action is still felt to be necessary. *The solution proposed is to establish a degree of collective control over the framework by designing a process of argumentation about the framework, such that it is maintained discursively.* This is the so-called ‘critical solution’ to the ‘problem of practical reason’ in the vocabulary of CSH. It has been claimed in the literature that such discursively maintained frameworks can result in the creation of ‘future-responsive systems’.



The TSI/CST literature seems to acknowledge explicitly the possibility of many research (and action) frameworks to be used within the management systems area. It also acknowledges the various conceptual and practical difficulties arising out of this. On the one hand, the TSI/CST thinking might be viewed as a set of guidelines for using various management systems methodologies in order to magnify their research-orientation and action-orientation. For example, TSI/CST thinking seeks to clarify that the learnings from a System Dynamics (SD) modelling exercise is best expressed using the vocabulary of ‘dynamic systems’—one that is associated with the framework of ideas on which SD is based. On the other hand, referring to the more recent TSI/CST thinking, a different type of focus might be recovered. *There is an emphasis on ‘reflective conversation’ among different frameworks of ideas, hinting at the need for new conversational devices which can accommodate different system notions, e.g., ‘self-regulating system’, ‘dynamic system’, ‘appreciative system’, ‘future-responsive system’, etc., and help produce a general body of thought for the management systems area.*

An attempt is now made to articulate different types of research-orientation within the management systems literature based on what has been described in this chapter. It is to be noted that the literature focuses on the need for a systematic support to action within social and organisational situations and the need to maintain a research-like critical debate about it with the hope of improving the chances of the *forms of support* to be more successful in future applications. *The general lesson in this literature about improving the chances of the forms of support to be more successful in future applications points either towards the innovation of alternative forms of support or towards the improvement (and enrichment) of the existing forms of support so as to make them more reliable, easier to use, more robust to changing circumstances, easier to be taught, etc.*

The above general lesson captures some of the recurrent themes in the research literature pertaining to the management systems approaches. However, for the purpose of this review, it is also important to identify how some of the management systems approaches might be unique and different from some others in terms of their research-orientation. *This has been done in the following paragraphs by trying to classify what the approaches strive to achieve and improve through research.* It is to be noted that the classification presented below constitutes one way of discussing some of the similarities and differences among the management systems approaches. There can be alternative ways of discussing the same. However, the following way of discussing seems to point towards the specific contributions management systems thinking can make to the current debates in action research—a theme taken up later in the next Subsection.

- *One type of research focus seems to be on what might be labelled as ‘systems in the world’. The form of support involves the (re)organisation of a local environment so as to produce in the world an instance of a system having some observable properties, e.g., optimality, self-maintenance, etc. This is made possible by innovating methods of intervention and the means of ensuring that the results are of a desired quality and durability. The research-orientation of OR, SA/SE, and parts of Organisational Cybernetics might be interpreted as focussed on bringing forth such systems and maintaining a critical debate pertaining to such systems: i.e., their formal characteristics, their effect when brought forth, ways (methods) of bringing them forth, conditions of success of such methods, shortcomings of such systems and methods, etc.*

- *A second type of research focus seems to be on what might be labelled as ‘systems to generate collective action’. The form of support involves the introduction of a specialised environment for interaction (e.g., ‘microworlds’, ‘learning laboratories’, ‘facilitated groups’, etc.) and a specialised form of interaction (e.g., language, rules, games, artefacts, etc.) among a set of actors such that they are able to initiate purposeful action as a collective. This is made possible by innovating suitable environments and forms of interaction to develop a shared understanding of the situation (as in the Soft OR approaches and in the learning-oriented applications of SD), ‘accommodation’ among viewpoints (as in SSM), etc. The literature in this area takes the first type of system notion (mentioned above) as a point of departure. The research-orientation associated with the ‘soft’ approaches might be interpreted as focussed on bringing forth such systems which generate collective action and maintaining a critical debate pertaining to such systems: i.e., the problem of describing such systems (worlds in which such systems might exist), the ways (methods) of bringing them forth in different contexts, the problem of describing the methods (or the rules that govern the methods), durability of such systems, the contribution of such systems in practical contexts, shortcomings of such systems and methods, etc.*
- *A third type of research focus seems to be on what might be labelled as ‘systems to generate collective control over action’. The form of support involves the creation of suitable institutional arrangements and conversational devices to create conversations among a set of (individual or collective) actors such that they are able to keep each other’s actions under some type of collective control. This is made possible by identifying suitable institutional arrangements as well as innovating methods of conversation which will have the desired effect. An interest in this type of system can be noticed in the research literature pertaining to CSH and TSI/CST. The literature in this area appears to take the second type of system notion (mentioned above) as a point of departure. It highlights the possible side effects of bringing forth and maintaining a system to generate action without any form of collective control over it from the participating and non-participating actors. The literature indicates the need for designing suitable contexts where specific forms of ‘conversation’ or ‘argumentation’ can be used to keep the inevitable ‘boundary judgements’ or ‘paradigms’ under continuous critical scrutiny. The literature also refers to the difficulties of doing this as well as the difficulties of identifying whether or not any other system notion might offer a more appropriate form of support in any given situation.*

#### **4.4.3 Revisiting the Current Debates in Action Research**

An attempt is now made to identify elements in the management systems literature which might be introduced within the current debates in action research (see Section 3.4) to enrich those debates. The debates pertaining to action research focus on the problems of ‘normal’ research (see Subsection 3.4.1). The gist of the problems discussed in these debates might be expressed in terms of the following: *The so-called ‘normal’ research does not seem to ensure that its results will always bring about improvements in how people behave and act in various practical settings.* The general approach of ‘normal’ research to focus on observed patterns that can be expressed (in terms of laws), transferred in scientific communications, and progressively made more and more precise through the effect of repeated observations, is viewed as inappropriate for the types of aim action research strives to achieve. Having rejected this approach, the action research methods seek to orchestrate various types of interaction within the local contexts of action so as to effect an improvement in how people

behave and act in those contexts. However, as soon as the focus shifts to orchestrating local interactions to achieve improvements in action, the issues of demarcation of research from other activities, the quality and durability of the results, effects of such activities outside the local context, the need for producing transferable results, the difficulty of conducting any critical scrutiny of the activities and the effects, etc., emerge to the fore. This is where the debate seems to get embroiled in the questions of ethics, epistemology, research paradigms, dilemmas, etc.

An appreciation of the development of the management systems literature and the current debates therein reveals that there might be alternative ways to formulate the core issues in the current debates in action research. To do that, it will be necessary to re-look at the general approach of ‘normal’ research which the action research debates seem to reject so emphatically. The so-called *systems movement* (see Section 4.2) also seems to have been based on an appreciation of the difficulties of using the normal methods of research in domains that display interconnectedness, emergence, openness of the object of study, etc. However, this seems to have been dealt with by introducing the notion of a ‘system’ that might not only refer to observed patterns, but also refer to entities that might be brought forth through purposeful action (including interaction, communication, etc.) such that the entities provide the basis (and support) for some other purposeful action. A review of the management systems literature reveals three general categories of such ‘systems’ being discussed there: *systems in the world*, *systems to generate collective action*, and *systems to generate collective control over action* (see Subsection 4.4.2). The research focus in this area then shifts from the problems of identifying and refining observed pattern to the problems of specifying relevant types of system and identifying and refining the methods of bringing them forth in various practical contexts. This type of reformulation seems to overcome most of the difficulties described in the current debates in action research. *The reformulation does not provide a direct answer to the question of how to improve action and behaviour in a practical situation; it simply reframes the question in ‘systems’ terms: What type of system could be brought forth in a practical context such that it proves to be a robust type of support to action and behaviour within that context? How to improve the methods of bringing forth such systems when the demand for such systems arise in future in similar or different environments? Whether it is possible to produce a systematic body of knowledge pertaining to various types of system and the methods of bringing them forth?*

A summary of the key ideas recovered from this chapter will be presented in Chapter 5 (see Subsection 5.5.2). The review of literature continues in Chapter 5 to explore the possible contributions of research to the improvement of action by delving into a wider body of literature on research as a form of support to action.

# Literature Linking Research and Improvement of Action

## 5.1 Introduction to the Review

The review so far has identified a number of general issues concerning action-oriented research based on two broad families of literature namely, *action research* and *management systems thinking*. The action research literature refers to the difficulties of applying the conventional methods of research to bring about improvements within human and social contexts, e.g., in the domains of education, organisational management, social helping, and various other professional practices. Somehow, the knowledge created by the conventional methods of research do not translate automatically to improved actions within such domains. *The actors in these domains seem to be either too constrained to change their actions and behaviour, or sometimes too free to act (and interact) in unexpected ways so as to nullify what conventional research might indicate.* The review in Chapter 3 shows that the action research thinking is oriented towards the production of *local* results (e.g., local theory, local knowledge, living theory, etc.) while being much less explicit about the issues arising out of the interconnectedness of the local with whatever that are not local.

The management systems literature also deals with a similar aim, i.e., the aim of bringing about improvements within practical contexts of action. However, the literature in this area seems to delimit the scope of this aim in ‘systems’ terms. In the practical sense, it seems to be focussed on the types of improvement which would result from the bringing forth of certain types of ‘system’, namely *system in the world*, *system to generate collective action*, and *system to generate collective control over action*. In the academic sense, it also seems to be focussed on the development of the existing notions of systems, improving the existing ways and means of bringing forth instances of specific systems (examples of such ways and means would include systems models and vocabularies, systems methodologies, issue structuring methods, and forms of argumentation, conversation, self-construction, etc.), and developing a body of knowledge relevant to such systems-oriented support to action.

Although the management systems approaches are oriented towards *local* improvements (e.g., local optimisation, organisational choice, problem structuring, accommodation, etc.) the literature in this area seems to make an attempt to be explicit about the sorts of general ‘frameworks of ideas’ (e.g., those built around the notions of self-regulating systems, viable systems, appreciative systems, self-constructed organisation, or future-responsive systems, etc.) and the ‘methodologies’ (e.g., the Systems Engineering, Soft Systems Methodology, Critical Systems Heuristics, etc.) that might be involved in the process. The literature deals extensively with the problems of translating some of the qualities of these general frameworks into practical situations (through appropriate models, procedures, ‘methodologies’, etc.) and also with the more general task of improving these frameworks and associated models and ‘methodologies’ in an ongoing manner.

The two families of literature, i.e., action research and management systems, appear to constitute two distinct types of response to a general difficulty. *The general difficulty is that of specifying a research thinking pertaining to the improvement of action. In other words,*

*both the families of literature seem to grapple with the task of specifying a general approach to provide research-oriented support inside practical contexts of action.* However, the differences between these two families of literature spring forth from the way they characterise the traditional research thinking. While the action research literature seems to characterise the traditional research thinking (that involves a search for scientific objects) as mainly totalising, inhuman, unethical, etc., the systems and cybernetic thinking developed in the so-called systems movement (which is taken as the conceptual basis of management systems, see Section 4.2) seems to characterise the traditional research thinking as in need of some further augmentation in order to address the communication barriers among scientific communities. The systems movement has focussed on certain generic (domain independent) concepts such as open system, control, homeostasis, self-regulation, etc., to achieve this task. This difference (between the two families of literature) seems to have led to different types of development in action research and management systems thinking. The former seems to have developed an interest in a variety of possible local achievements and the latter seems to have cultivated an interest in maintaining a variety of possible general frameworks (and associated models and methodologies) in order to secure a variety of local achievements as well as learnings that make such achievements less mysterious, more probable, more durable, etc.

Obviously, there is an academic need to appreciate these different paths (the ones adopted by action research and management systems) with respect to their quality, promise, and challenges. *This leads to the following questions: Whether different conceptions of research-based support can be developed? On what basis can different conceptions of research-based support be compared?* There seems to be a need to consult the more general literature linking research and the improvement of action.

The following labels (search strings) were used in order to identify an appropriate body of literature dealing with the general problems of modifying the conventional research thinking and the general issues pertaining to the improvement of action: ‘ethics of research’, ‘local knowledge’, ‘new cybernetics’, ‘new physics’, ‘philosophy of research’, ‘production of knowledge’, ‘research utilisation’, ‘research and reflexivity’, ‘science and action’, etc. Obviously, a huge literature was indicated by these pointers. It was possible to review only a modest cross-section of the literature, to clarify some of the general themes about the possible contributions of research to the improvement of action.

*The literature reviewed for this purpose seemed to emphasise the social character of any research-like endeavour implying that the process of research is never free from biases, ideals, intentions, values, etc., no matter how exacting is the method followed. Still, the literature seems to accord a certain legitimate role for research to play in practical situations (Section 5.2). The key role of research seems to be to provide a type of support to practical action to amplify its positive effects with a minimum of negative effects. The review has yielded two complementary notions of improvement that seem to be fundamental to the notion of research-based support to practical action (Sections 5.3 and 5.4).*

## **5.2 Social Production of Knowledge**

### **5.2.1 Research as a Social Practice**

There seems to be an enduring strain in the literature underlining the personal, interpersonal, professional, social, cultural, economic, and political forces shaping the practice and results

of research. This strain is referred to as the *sociology of knowledge*. Contributors to this strain include, among others, R. Bernstein, S. Deetz, K. Gergen, K. Knorr-Cetina, B. Latour, R. Merton, M. Mulkay, and S. Woolgar (Deetz, 1995; Latour, 1987; Leydesdorff, 1995; Woolgar and Ashmore, 1988). An awareness seems to have grown over the last 50 years that:

Knowledge production is not a result of a neutral, anonymous process but occurs in a politically charged, social/cultural context of real people with real agendas working within important personal relationships and institutional ties. The more that the professional production of knowledge has been studied, the clearer it is that it differs little from the processes by which ordinary everyday people go about making sense of their world with others (Deetz, 1995, p. 45).

The literature seems particularly explicit about the so called ‘professionalised knowledge’, a category that might subsume the results of management and organisational research. Although such knowledge is typically associated with ‘claims of expertise’ or special ‘forms of knowledge production’, the literature suggests, it could be visualised as part of an attempt by an elite group to maintain power and dominance in society (a point made by the philosopher M. Foucault for instance). Besides, such knowledge (including all institutionalised forms of research practice) is said to involve a process of ‘legitimation’ backed by the authority of a ‘legislator’ who typically draws upon ‘metanarratives’ privileging certain conditions and constraints over others to determine whether a statement is to be declared admissible by a relevant scientific community (Lyotard, 1984). Lyotard has emphasised that such conditions and constraints might sometimes ‘cease to be stakes in the game’. *This seems to indicate the possibility of a special type of institutional crisis within research-based professions where the underlying metanarratives might be losing their power of legitimation in certain domains. This points to the problem of identifying alternative foundations for supporting research practice, or identifying alternative grounds on which professionalised knowledge might be judged especially when confronted with many different types of competing knowledge claim.*

There is the suggestion that ‘professional knowledge production can represent long-term social interests that are not well embedded in alternative groups’ knowledge production activities’ (Deetz, 1995, p. 47). This might be actualised, it has been suggested, through the pursuit of expanding a *discursively maintained common world* taking care of the following:

- (i) without conflating an experienced world as ‘the world’ or the only possible world,
- (ii) without hiding the manner by which stable objects in the world are produced by professionally shared constitutive activities,
- (iii) ever extending the variety of expressed positions in the interest of open discourse, and
- (iv) striving to promote a type of language usage that opens the subject matter to further exploration rather than closes it up (Deetz, 1995, pp. 52-55).

Although research (or academic activity in general) might be viewed as a social practice, it is still necessary to explore its internal dynamics as well as its inter-relationship with the outside world (i.e., outside the *discursively maintained common world* of research).

### **5.2.2 Research as a Form of Support**

Sometimes it might be tempting to suppose that research-based knowledge would indicate the most ‘rational’ way to act in any given situation. This type of thinking has been criticised in

the literature. Latour (1987) has raised the question: How do ordinary folk go about their daily business without science? He has hinted at the possibility that different types of logic and rationality might be used by different groups of people. This is what cognitive psychologists term as 'domain-specific knowledge' (Eysenck and Keane, 1990; Simon, 1973). However, people might still experience various obstacles in their way to achieve their goals, and there might be specific types of resource involved in clearing these obstacles. B. Latour has highlighted one type of resource that people use *inside and outside of science*; it is expressed by the notion of a *network*. He seems to interpret scientific knowledge as analogous to an *extension of a network*; although other types of knowledge might serve some locally useful function.

The requirements put on knowledge are utterly different if one wants to use it to settle a local dispute or to participate in the extension of a network far away (Latour, 1987, p. 253).

The idea of *extending a network* might be comparable with the notion of *enlarging a vocabulary*, proposed by R. Rorty:

One can use language to criticize and enlarge itself, as one can exercise one's body to develop and strengthen and enlarge it, but one cannot see language-as-a-whole in relation to something else to which it applies, or for which it is a means to an end (Rorty, 1982, p. xix)

These notions, i.e., *extension of a network* and *enlargement of a vocabulary*, seem to indicate that the *added value* in the scientific form of support comes from this type of extension or enlargement. Thinking practically, more can be achieved through a more extended network, and more can be expressed through a more enlarged vocabulary, although there might be certain side effects.

The notion of *added value* above seems to get linked with the notion of *scientific progress*. Scientific progress has been interpreted variously by various commentators (Campbell, 1974; James, 1880; Kuhn, 1977; Lakatos and Musgrave, 1970; Paritsis, 1993; Popper, 1979; 1980; Steier, 1991; Toulmin, 1970; De Zeeuw, 1992). These various ways of interpreting scientific progress constitute a general debate about the **accumulation problem** in research. *The fundamental concern within this debate is to identify and discuss the accumulated effects of repeated application of research procedures*. Although there are methodological concerns here (e.g., whether accumulation involves better and better 'approximations of the truth', or whether it involves more adapted breeds of knowledge systems, or rise of competence, or whether it involves the construction of ecologies, communities, languages, spaces, etc.), there are also practical concerns regarding the types of accumulated outcome that might be more desirable than others in specified situations. This seems to relate to the issues of desirability, justification, and legitimacy of forms of research activities.

A special form of social legitimacy for scientific work has been proposed by J. Lyotard. For him, 'science has no final legitimacy'; its legitimacy is relative to the support it might provide to action. The type of support visualised by Lyotard consists in informing the 'subject' about the 'reality' within which 'action' is to take place (Lyotard, 1984). This type of notion seems to be worth-investigating in the current review.

*Discussions about research (its nature, effects, legitimacy, etc.) seem to highlight two crucial aims for research: (i) Some type of support to some 'subject(s)' and (ii) some type of added value generated through the accumulated effects of research.*

### **5.2.3 Demarcation of Research**

There also seems to be a growing literature seeking to reclaim the notions of science, reason, and truth, which seem to have languished under the rise of the *sociology of science* (e.g., Gross, *et al.*, 1996). This literature underlines the importance of these notions even though research is seen as a social practice. M. Bunge has commented about what he has termed as 'charlatanism in academia' (Bunge, 1996). He has argued that a part of the literature about research that tends to emphasise the social and cultural aspects of scientific work, also spreads certain *misunderstandings* about science. A similar point has also been made by Bricmont (1996). Bricmont has indicated certain misunderstandings in the literature about the differences between determinism and predictability, between different levels of analysis, between scientific laws and the way the world might actually be, and certain confusions associated with notions like reversibility, entropy, open system, and complexity, etc. Bunge seems to suggest that research might well be a social and cultural practice carried out within institutional systems as the literature of *sociology of science* depicts, but it still needs to be demarcated from other types of practice in order to redeem its distinctive character.

The **demarcation problem** in research has been discussed extensively in the literature (Gieryn, 1983; Gower, 1987; Kuhn, 1977; Lakatos and Musgrave, 1970; Levine, 1980; Magee, 1987; Outhwaite, 1987; Popper, 1979; 1980; de Zeeuw, 1995). Many notions pertaining to the demarcation of science have been covered in the literature, e.g., 'criterion for meaningfulness', 'fact stating language game', 'explanatory mechanism', 'logic of research', 'convention', 'research programme', and 'research tradition' (a notion coined by L. Laudan, discussed in Depew and Weber, 1996, p. 23). Two broad aspects of the demarcation problem have been discussed in the literature: namely *analytical* and *professional* (e.g., Gieryn, 1983). Taking research to be a developing social practice that might be publicly supported for the specific advantages (*support* and *added value*) it brings about, the *analytical* aspect of demarcation focuses on methodology, i.e., the conceptual basis upon which the advantages might be expected, guaranteed, made possible, and tested. The *professional* aspect of demarcation focuses on the public justifiability of research especially to secure access to public resources.

The above notions, i.e., *support*, *added value*, *methodology*, and *public justifiability*, can be used to review the growing variety of approaches (and philosophies) in the literature of *social* (and *organisational*) *research*. This might be a way to discuss the relationship of *social research* with action, to fulfil the aims of this review.

### **5.2.4 Social Research**

The literature has referred to the 'new philosophies of social science' (Hookway and Pettit, 1978; Bohman, 1991; Outhwaite, 1987; Steier, 1991). Under these are covered, among others, constructivism, critical theory, hermeneutics, realism, relativist-constructivism, and sociorationalism. This literature might be read in conjunction with the ever-growing literature about the goals and methods of social science (Denzin and Lincoln, 1994; Geertz, 1980; 1983; Guba, 1990; Humphries, 1997; Levine, 1980; Lewin, 1946; Morgan, 1980; Rorty, 1982; Ryan, 1965; Sayer, 1992; Schwandt, 1980; Spinelli, 1989; Winch, 1956; Woolgar and



Ashmore, 1988). *The so-called new philosophies seem to address some of the methodological difficulties of social research, directed and driven by their own specific slant with regard to the goals and methods of social science.*

One of the key difficulties of social research seems to be associated with the notion of *scientific object*. This notion has also been quite central to the discussion *about* the sciences of physical phenomena. Different types of object (or, notion about objects) have been discussed in these areas; e.g., stable homogenous objects that are part of the natural order of things (e.g., oxygen), objects in the form of infinite sequence of events that have some convergent properties (e.g., the object to which the *law of large numbers* in statistics refers, Hacking, 1965; 1975), complex objects like ‘genealogical hierarchies’ consisting of a set of infinite sequences (Depew and Weber, 1996, p. 495), complex objects that emerge only under certain circumstances (e.g., dissipative structures, Jantsch, 1980), etc. Even within the physical sciences, serious methodological problems seem to have emerged concerning the search for scientific objects, especially in the study of sub-atomic particles (Albert, 1994; Bohm, 1983; Zucav, 1979), as also in the study of evolution, brain, mind, and consciousness (Bateson, 1979; Davies, 1983; Depew and Weber, 1996; Edelman, 1990; Penrose, 1996; Wang, 1995). The notion of a *scientific object* existing apart from events and observers leads to intractable methodological problems and paradoxes within these domains. There does not seem to be a unique solution to such problems, although different types of solution have been discussed in the literature. *The lessons from this literature for the present review seem to be the following: There are serious methodological problems facing scientific research in a number of domains; these problems are being viewed as challenges to be addressed in these areas, and finally, any serious attempt towards their solution seems to be associated with fundamental modifications of thinking about the nature and scope of scientific research and the kinds of benefit expected from it.*

In the area of social research, the above type of rethinking might be seen in the so-called ‘new philosophies’. Sometimes the new philosophies appear to have been presented as involving new images of the social world and social inquiry (sometimes referred to as ‘new paradigms’), implying that many different (perhaps independent) models for doing social research might be possible. This of course raises the question as to whether they are really independent of each other and whether there might be infinitely many such ‘paradigms’ without any constraint whatsoever. It seems also possible to interpret the new philosophies as proposed ways to deal with the fundamental difficulty of specifying the goals of social research and the types of method that would accomplish such goals. Interpreted in this way, the so-called ‘new paradigms’ do not appear as definitive and multiple solutions to the problems of social research, but as alternative proposals to deal with certain sets of problems. These problems include: the *problem of reflexivity* (Steier, 1991; Woolgar and Ashmore, 1988), *problem of observing and reporting on values, meanings, and intentions* (e.g., Denzin and Lincoln, 1994), *problem of structure, culture, and agency* (Archer, 1988; Bendix, 1963; Giddens, 1993), *problem of an open world* (e.g., Sayer, 1992, Chapter 4), etc., not to forget the problems that arise in the *use of research results* (e.g., Gibbons, *et al.*, 1994, also discussed in Chapter 3 of this thesis).

*An appreciation of the philosophies (‘paradigms’) and the problems suggests that the literature of social research is quite diverse with respect to the types of support that might (or might not) be possible through research. It also seems to suggest that, although a certain type of support might be possible, e.g., using anthropological knowledge for benefiting*

*'outsiders', this might lead to serious ethical issues* (Fundación Sabiduría Indígena and Kothari, 1997).

### **5.2.5 Ethics of Research**

Ethical issues have also been discussed in the literature pertaining to research (Carr and Kemmis, 1986; Fals Borda and Rahman, 1991; Hammersley, 1997; Hammersley and Gomm, 1997; Harré, 1990; Humphries, 1997; Jackson, 1991; Rothman, 1972; Sieber, 1992). The literature refers to a 'scientific ethos' characterised by 'universalism, organised scepticism, communality, ethical neutrality, and disinterestedness' (Rothman, 1972). Rothman had observed that the institution of science is by and large able to 'protect itself against fraud, motivate and reward its practitioners, and keep itself free from external influences', although the activities within research establishments are not always guided by the 'scientific ethos'. This type of observation has been reinterpreted or even disputed in the literature (e.g., Harré, 1990; Humphries, 1997). It has been argued that there might not be a universal set of values guiding research. In specific situations, research might proceed from the stand point of those whom it aims to support (e.g., Fals Borda and Rahman, 1991). Following this type of thinking, it has been argued that sometimes certain desired values might seem contradictory, e.g., 'critical thought' and 'emancipatory action' (Carr and Kemmis, 1986). *It has been pointed out that such situations can be dealt with by defining a suitable research thinking within which the values would not be contradictory any more.* For example, it has been argued that the values of 'critical thought' and 'emancipatory action' might become united within 'praxis-oriented research' or 'action research' (Carr and Kemmis, 1986; Humphries, 1997). Some have also reported on the need to separate the ideals of research from the methodology of research, without of course clarifying how to achieve and maintain this separation in a constructive way (Swepson, 1998).

*It seems the effort to either separate values from research, or even to associate research with a universal set of values, have both become controversial in the literature. The literature seems to be more oriented towards discussing the role of values inside research, the conceptual and other (e.g., linguistic) innovations necessary to include values inside research, and the effects of included values on the results of research.*

## **5.3 Research and Improvement**

### **5.3.1 Recapitulation**

Viewing research as a *developing social practice*, it can be argued that the practice has been changing with respect to the foundations that legitimise its claims. Older foundations (e.g., the divine order, the natural order) are ceasing to be 'stakes in the game', especially within research-based professions, e.g., management studies. This suggests that there is a task of exploring and identifying alternative grounds on which professionalised knowledge might be judged, especially when confronted with many different types of competing claim. Some alternatives proposed in the literature are: 'long-term social interests', 'discursively maintained common world', 'support to action', 'rise of competence', 'informing the "subject" about the "reality" within which action is to take place', and the construction of ecologies, communities, languages, networks, spaces, etc.

The literature has dealt with the problem of demarcating research from other social practices. The distinctive character of research seems to arise from the quality of *support* it is expected to provide to outside actions. The quality is based on a notion of *added value* (or, a growing, developing, or evolving resource base), e.g., extension of a network and enlargement of a vocabulary. *The added value is expected to accumulate through the effect of the recurrent practice of research.* There are methodological concerns here (e.g., what type of procedure leads to what type of added value) as well as practical concerns regarding the types of added value that might be preferred over others in specified situations. The criterion of ‘public justifiability’ has usually been associated with the social practice of research.

An appreciation of the ‘new philosophies’ and the problems of social research suggests the possibility of different kinds of support that might be possible through research. It also suggests that, although possible, certain types of support might not be desirable from the point of view of maintaining the ‘moral order’ of research. However, the ‘moral order’ has not been static over the years, and it is not possible to rule out further changes in it, especially in its ‘narrative conventions’.

### **5.3.2 Local and Global Improvement**

From the foregoing review, it is possible to recover at least two different meanings of *improvement* in the context of research: (i) The first meaning refers to the effect of the *support* that research provides in any specific instance. This would be an improvement from the standpoint of the specific users of the results of research, i.e., those whose actions are supported. This might be termed as *local improvement*. (ii) The second meaning refers to the effect of the *added value* that is accumulated through the recurrent practice of research. It is the sense in which the resource base of research (e.g., ‘approximations of the truth’, adapted breeds of knowledge systems, competence of communities, the know how pertaining to designed spaces, networks, etc.) might be said to be improving. This second type of improvement might be termed as *global improvement*.

*Global improvement* has been the main focus of the literature on *scientific progress* (e.g., Lakatos and Musgrave, 1970; Popper, 1979; 1980; Rorty, 1982). *Local improvement* has been the interest of applied disciplines. The literature in this area shows that the expected *local improvements* depend upon various contextual factors, viewpoints, propensity to think, learn, communicate, co-operate, accommodate, etc. (as made clear in the literature of action research and management systems, reviewed in Chapters 3 and 4.). Achieving any one type of improvement without the other seems anathema to the social practice of research. If both are not sought to be achieved together, then difficulties arise with respect to the legitimacy and justification of research as a social practice and its demarcation from other social practices.

*The endeavour to achieve both local and global improvements in an interdependent manner not only maintains research as a publicly justifiable social practice but also allows its ‘moral order’ to evolve in tune with the demands of the times.* New demands are made on research from time to time as the human context itself evolves, presenting many new surprises and posing many new challenges. This produces a creative tension within the ‘moral order’ of research to adapt its ‘narrative conventions’ to the new types of *local improvement* expected of research and link these to the preferred types of *global improvement* such that each has a critical and constructive effect on the other.

## 5.4 Possibilities of Coupling Between Local and Global

This section will explore some of the various linkages between *local* and *global improvement* that might be discerned in different research areas. It will also focus on one of the conceptualisations about the linkage between the *local* and the *global* discussed in the management systems literature. The section will conclude with a discussion on some of the open issues in this area and strive to articulate some options for thinking about these issues.

### 5.4.1 Local-Global Notions in Different Research Areas

#### *Biological Evolution*

Notions similar to *global* and *local improvement* have been discussed in the context of biological evolution (Bateson, 1979). This literature speaks of *learning*, which occurs within an individual, and *evolution*, which occurs within a population, i.e., over successive generations. It is not necessary that an achievement at the level of the individual must always be (or lead to) an achievement at the level of the population. In fact, it is quite possible that an achievement at the level of the individual might turn out to be quite disastrous for the population (*ibid.*, Chapter 6). Clearly, *learning* and *evolution* are inter-related, with the possibility of information transfer between the two levels, i.e., the phenotype and the genotype. It has been argued that the ‘single ongoing biosphere’ connects the two levels of structure through a necessary unity.

The point for the current review seems to be two-fold: (i) individual *learning* (analogous to *local improvement*) is not sufficient in itself within the living world; something like *evolution* (analogous to *global improvement*) is also necessary from the point of view of survival; (ii) the two types of process might be distinguished analytically, but not separated functionally, and typically require an appropriate intervening medium for their operation as well as interaction.

#### *Observing Systems*

The literature of second order cybernetics, dealing with *observing systems*, has discussed *actors* and their interaction, or participants and their conversation (Cariani, 1993; Glanville, 1993; Pask and De Zeeuw, 1992; De Zeeuw, 1993a; 1993b). It visualises a network of elements (or a society of actors) adaptively constructing their own observables (i.e., their own ways of seeing the world and other actors), as they interact and communicate with each other (Cariani, 1993). This might also involve modifying from time to time how observables are constructed, in order to act and belong to the society of actors. In this process, research and application tend to become inseparable from each other, although perhaps distinguishable analytically. It involves generating information that induces *actorship* (in an element or entity which is capable of being so induced). It also involves the induced actor to generate such information which maintains its *actorship* as well as *membership* in the collective (De Zeeuw, 1993a).

This recurrent process of generating and maintaining the *actorship* as well as the *membership* might be facilitated in certain types of medium, e.g., ‘shared information spaces’, having specific characteristics (de Zeeuw, 1993b) or ‘interface systems’ (Pask and de Zeeuw, 1992). These mediums might take various forms (linguistic, social, virtual, etc.) Irrespective of form,

these mediums function as resources worth maintaining and extending in the service of actorship and membership.

This approach to (social) cybernetics has been recognised as a potential direction for research in communication, information systems, management studies, policy studies, social learning, etc. (Espejo, 1996; von Krogh and Roos, 1995; van de Vijver, 1992; de Zeeuw, 1986). The *local improvement* is sought to be achieved through the creation of ‘shared information spaces’ or ‘interface systems’. The global improvement is expected from an understanding of how such spaces or systems are brought forth through the *interaction of actors*, so that similar spaces or systems might be brought forth in some given environment and the existing spaces or systems might be strengthened/improved.

### *Social Systems*

The category of *self-referential systems* has been used in the literature of social systems (Luhmann, 1997; Willke, 1990). Such systems have been described as ‘systems that condition their conditioning’; i.e., they operate recursively and need to depend on their past states which they ‘cannot fully remember’, and have to ‘anticipate future states’ which depend on future decisions (Luhmann, 1997, p. 363). Put simply, such systems do not have sufficient access to an outside; their operations are largely determined by their own present states, memory of their past states, and their anticipation of their own future states. This situation has been described as ‘self-generated intransparency’. Many possible instances of such systems have been discussed in the literature, e.g., multi-national corporations, new strategic weapon systems, international financial systems, media networks, etc., which act as if they are ‘inner-directed’ (Willke, 1990), even probably humans (Maturana, 1988). A self-referential system develops something like a knowledge of external ‘reality’ as ‘reality results from the successful processing of a resistance by operations of the system against operations of the same system’ (Luhmann, 1997, p. 365), what has also been termed as *objectivity-in-parenthesis* (Maturana, 1988).

The practical problem of control (including self-control) has been discussed with respect to self-referential systems, where control is interpreted as ‘intention for change of specific differences’ (Luhmann, 1997, p. 367). Such control (from the outside or from the inside) ‘has the effect of conditioning something which happens elsewhere in the system’ (*ibid.*, p. 368).

This type of a theory of biological and social systems occasions a fundamental rethinking about the nature and function of research as a social practice. It fosters scepticism towards representational epistemology and any form of ultimate reference except to ‘self-produced indeterminacy’. In this scenario, results of research might be expected to facilitate the effort of self-referential systems to cope with the problems of their own indeterminacy. This might take the form of organising systemic interrelations in such a way that ‘processes of self-transformation’ might be initiated and promoted, especially towards the possibility of systems to shift between self-referencing and other-referencing (Willke, 1990). In other words, research might help such systems deal with the problems arising out of their ‘inner-directedness’, possibly by enabling them to build and use outside resources. This type of research direction has been proposed in the literature (Willke, 1990).

The above type of research thinking on social systems seems to depend on the possibility of a ‘process of self-transformation’ (among a set of self-referential systems) that has the effect of producing a shared objectivity, albeit an objectivity-in-parenthesis, to help resolve the

problem of ‘self-produced indeterminacy’ for the participating self-referential systems. In terms of *local* and *global improvement*, such thinking provides a way to visualise *local improvements* as arising out of the production of the shared objectivity and *global improvements* as arising out of a process of making the production of such shared objectivity less mysterious, more reliable, replicable, etc.

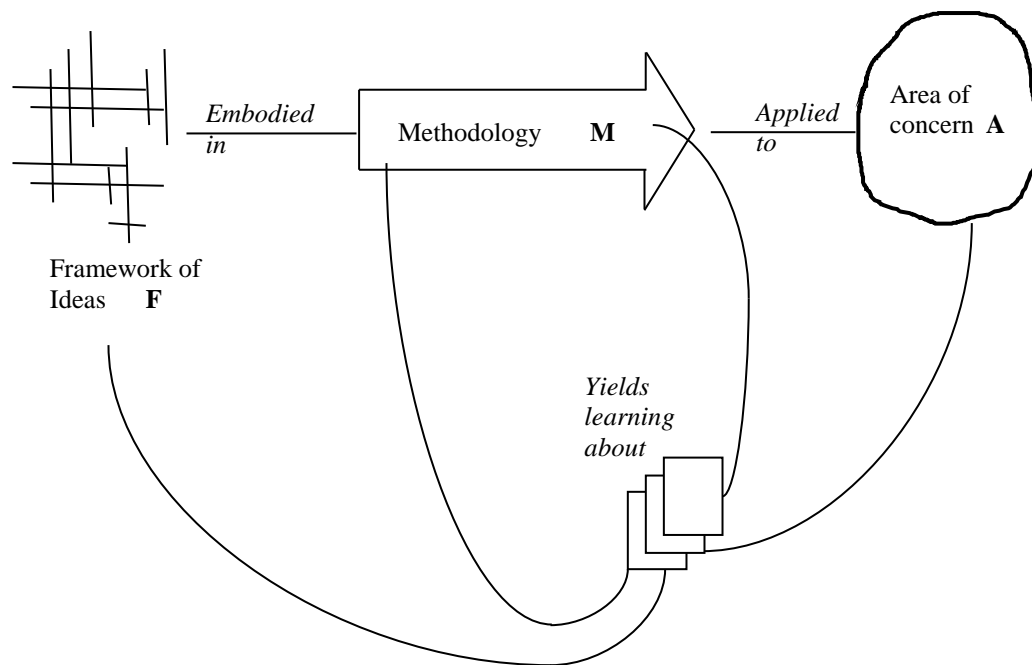
### *Ethnomethodology*

While describing the perspective of ethnomethodology in social research, the literature has referred to what people do in order to make their activities *accountable* (i.e., ‘visibly-rational-and-reportable-for-all-practical-purposes’, an expression used by H. Garfinkel) and their accounts (which are context-bound, or *indexical*) understandable within the relevant community (Lynch, 1993). Yet, this might be said to be what the conventional form of social research (supported by various rules of method) strives to do, i.e., produce accounts of activities which become understandable outside the context of production of the accounts. Such an enterprise becomes possible because of the ‘stable, constraining, recognisable, rational, and orderly properties of “social facts”’ which, the ethnomethodologists claim, ‘are local accomplishments’ (Lynch, 1993, p. 265). This seems to emphasise the possibility of bringing forth such local accomplishments as well as their use as a local resource, especially for the purpose of producing and exchanging accounts (e.g., what might be involved in a band of jazz musicians managing to play music together without any explicit script to play from, *ibid.*, p. 271). It has been suggested that ethnomethodology might ‘look for rules which, when followed, allow us to generate a “world” of a given kind’ (an expression by E. Goffman, quoted by Lynch, *ibid.*, p. 276). However, it has also been pointed out that these rules might not be like global laws which must hold, but characteristically depend on the ability of people to understand, interpret, and consult such rules with a degree of competence.

For the present review, the above ideas suggest that it is possible to focus research attention on how the ‘local accomplishments’ arise in the first place rather than simply reporting about them as would traditional research. With this shift of focus, it becomes possible to visualise a form of research which strives not merely to discover or describe ‘local accomplishments’ but engages within the process of their production to achieve two distinct aims: (i) to secure the improved communication and co-ordination that follow from the successful production of a ‘local accomplishment’ (or a local ‘world’); and (ii) to make such local achievements a topic of systematic study to progressively render their production less enigmatic, more replicable, more successful, better supported, etc.

### **5.4.2 A Conceptualisation about Local-Global Linkage**

Although the notions of *local* and *global improvement* seem to be so fundamental to the thinking about research and improvement, the types of literature reviewed in Chapters 3 and 4 do not seem to make explicit these notions and their interrelationship, except in parts of the management systems literature where it is done in terms of the so-called F-M-A structure (see Checkland and Holwell, 1998b).



**Figure 5.1 The F-M-A structure (after Checkland and Holwell, 1998b, p. 13)**

Checkland and Holwell have designated the above structure as representing ‘elements relevant to any piece of research’. According to the structure, research (whether traditional or not) normally involves a ‘methodology’ (M) that somehow conveys (by ‘embodying’ and ‘applying’) the essence of a ‘framework of ideas’ (F) to an ‘area of concern’ (A), in such a way that the entire process results in ‘learning about’ F, M, and A together.

Based on what has been discussed so far in this chapter, it is possible to discuss a number of questions pertaining to research and improvement in terms of the above structure: e.g., what kinds of ‘frameworks of ideas’ qualify to function as F in research, especially if the research is aimed at providing not only a form of *support* but also that degree of *added value* necessary for public justifiability of research? What exactly does the M convey from F to A? Does it also convey some influence back from A to F? What is the expected role of the ‘learning about’ produced by M? Could there be any other key elements relevant to research not indicated in the structure, e.g., inter-relationship among multiple F’s, M’s, and A’s, certain conventions (including research languages) pertaining to ‘learning about’, the effects of communication of research results, certain interactions among the elements in A that might have a forceful effect on the research process, etc. issues like these will be discussed below.

#### **5.4.3 Open Issues and Options**

The notions of *support*, *added value*, and *local* and *global improvement* introduced earlier and the F-M-A structure outlined above provide a terminology to make explicit some of the issues being debated in various academic areas pertaining to research and improvement. It is to be noted that such issues provide the necessary creative fuel to drive the process of change that distinguishes research as a *developing social practice*.

The problems of legitimacy of research as a social practice (as somehow a more privileged mode of knowledge production) were discussed in Section 5.2. It was concluded (see

Subsection 5.3.1) that the distinctive character of research seems to arise from the quality of *support* it is expected to provide to outside actions. The quality is based on a notion of *added value* (or, a growing, developing, or evolving resource base), which is expected to accumulate through the effect of the recurrent practice of research. The types of *added value* expected of research are related to its public justifiability. This implies that it might be possible to devise specific breeds of research based on the type of *support* and *added value* chosen as the starting parameters. However, such possibilities might be limited by the existing demand for a particular type of *support*, the public justifiability of a notion of *added value*, and the compatibility between a notion of *support* and a notion of *added value*. *The specific combinations of these two fundamental notions that might provide the more potent formulations for research aiming to achieve improvements in action might be taken as an open issue.*

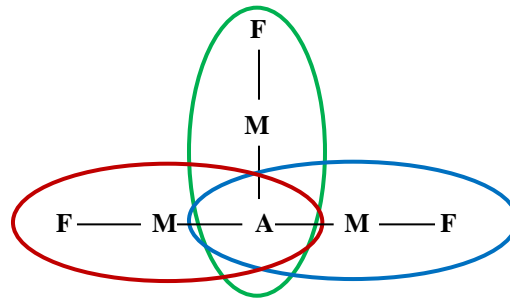
This type of openness can also be specified by using the notions of *local* and *global improvement*. It appears from the foregoing discussion that both *local* and *global improvements* are desirable in research. Additionally, it also seems that the two are not operationally independent of each other although a degree of analytical separation between the two seems possible. Therefore, it might be concluded that any specific research thinking ought to specify not only its notions of *local improvement* and *global improvement* but also how the two might be linked in operation.

As discussed in Subsection 5.4.1, there seems to be a number of alternative conceptions about the *local* and the *global* and how the two levels might be coupled operationally. In the study of biological evolution, some form of information transfer has been conceptualised between the two levels of improvement such that the possibility of individual-level and species-level learning is maintained. In the study of observing systems, some form of interaction among actors has been conceptualised such that the interaction produces a collective which maintains the actorship of the participants while maintaining their membership in the collective as well. In the study of self-referential social systems the problem of self-produced indeterminacy has been dealt with by conceptualising a form of self-transformation which allows a set of self-referential systems to jointly maintain a shared objectivity that reduces the problem by making some kind of an ‘outside’ accessible to the participating systems. The ethnomethodological perspective in the study of human interactions speaks of local accomplishments produced by people through their communications and actions. These local accomplishments facilitate communication and co-ordination within the context where they are produced.

From the above, it might be concluded that there is a degree of openness with respect to specifying the *local* and *global* levels in precise terms. However, there seems to be a need to maintain an *operational coupling* between the two levels in order to ensure that the relationship between the two levels is constructive and critical, in other words, each level informs and transforms the other, producing the two types of improvement: *local* and *global improvement*. *The precise realisation of the two levels and their operational coupling seems to be an open issue.*

Some of the open issues might also be articulated in terms of the F-M-A structure outlined earlier in Subsection 5.4.2. The structure makes it clear that there can, in principle, be several F’s (as the structure does not provide a way of privileging one type of F over another). If each F can be associated with a corresponding M, then the situation might be visualised as in the following figure:





**Figure 5.2 The problem of multiple ‘frameworks of ideas’ (F’s)**

The possibility of multiple ‘paradigms’ as discussed in the literatures of action research and management systems might be taken as an alternative way of articulating a situation similar to the one depicted in the above figure. Although different types of response have been discussed in the literature (reviewed in Chapters 3 and 4), an appropriate way of responding to the situation might still be taken as an open issue.

## **5.5 Key Results from the Literature Review**

The first major step in the study has now been completed. It involved an exploration of action-oriented research in three families of literature: (i) action research, (ii) management systems thinking, and (iii) the literature linking research and the improvement of action. The main aim of this exploration was to identify some key conceptual elements pertaining to action-oriented research which might be used in constructing a conceptual framework to guide such research in a wide range of application domains. In other words, the interest was in identifying some significant abstractions that relate to the issues and the challenges of action-oriented research irrespective of the application domain.

The conceptual elements (or abstractions) derived from the literature review in Chapters 3, 4, and 5 will now be outlined. Some ideas to structure and guide the next major step in the study, i.e., an exploration of the practice of action-oriented research, will also be discussed.

### **5.5.1 Key Results from Chapter 3**

#### *Studying Something from Outside or Inside*

Early contributors to action research thinking have identified situations in which some hypothesised patterns (or structures) could not be studied unless the researcher played an active role in that situation. Such situations have been discussed in individual therapy, group dynamics, study of society and organisations, etc. This leads to the notions of studying something from *outside* or from *inside*. When it is not possible to study something from outside, a form of action-orientation then becomes necessary. This involves some carefully designed action (or interaction) in the situation which alters the context in some significant way.

### *Construction of New Patterns*

Another type of action-orientation involves the active changing of the interactions in a context such that a new pattern or structure is produced. This combines in a unique way the two types of study mentioned above. The new pattern, once it is constructed, might become amenable to study from outside. However, the process of construction of the pattern itself can be viewed as occurring in the inside domain.

### *Local Resistance*

Whenever a pattern (or structure) is being constructed it might attract some local resistance which might have the effect of upsetting the pattern or its construction or both. This invites attention to the unintended effects and side-effects of constructing a pattern. The literature suggests that the issue of local resistance creates some new challenges for research. One way forward discussed in the literature is to provide for a degree of local control on the pattern to be constructed, i.e., provide ways by which local activity can progressively shape the pattern.

### *Openness of the Research Object*

Sometimes, it is not possible to specify exhaustively that which is being studied. This is expressed as the problem of openness of the research object. This type of difficulty has been reported in research situations in natural, psychological, and social spheres. Where research objects in the closed form are difficult to identify, a creative alternative for research could be to strive to achieve some *special type of closure* by orchestrating some processes (actions, interactions, communications, etc.) which have that effect.

### *Accumulation of Competence*

Action research, in general, seems to aim at some form of accumulation of competence. Action Learning seeks to help a group (usually of managers) to develop the capacity of its members to deal with their own day-to-day issues. Action Science seeks to implement double-loop learning, i.e., the capacity and the preparedness of organisation members to replace their patterns of thought and behaviour with novel alternatives. Action Inquiry seeks to enable organisation members to become observing participants, i.e., to improve their capacity to observe themselves and their environments while still remaining as participants in the organisation. Participatory Action Research seeks to augment the capacity of a group or community to make better use of their own local resources and strengthen their ability to resist any imposition on them. Co-operative Inquiry aims to increase the ability of professionals (e.g., doctors) to make use of each other's observation, experience, thinking, feedback, etc.

### *Construction of Collective Resources*

Most of the recent approaches to action research involve the construction of some collective resources. Once such resources are available, they enable a set of actors to act more competently in some domain. Such resources might require various types of action in order to be created and maintained continuously. Examples of such collective resource are: *auto-therapeutic organism* (Action Learning), *community of inquiry* (Action Science), *liberating structure* (Action Inquiry), *self-reliance promoting organisation* (Participatory Action Research), and *co-operative inquiry group* (Co-operative Inquiry).

### *Quality Criteria in Research*

The literature of action research suggests that the traditional criteria of quality in research need to be replaced with some new criteria. There are proposals to consider the notions of learning, improvement of practice, professional development, etc., to construct these new criteria. These proposals still seem to be part of the current debates in this area. The search for new criteria still seems to be elusive as there does not seem to be a unique way to establish whether learning, improvement of practice, or professional development has indeed occurred in a given situation.

### **5.5.2 Key Results from Chapter 4**

#### *Vocabulary of Systems*

In the early stage of the systems movement, the vocabulary of systems was considered to be potentially helpful in improving the communication between researchers in different fields. The vocabulary promised to unify knowledge from different disciplines and foster a transfer of knowledge among them. Although the vocabulary has undergone several changes since, various systems concepts are still used in a variety of domains to abstract some domain-independent insights from some domain-specific knowledges.

#### *Formal Notions of System*

Formal notions of system play a significant role in management systems thinking. Examples of such formal notions are: queuing system, self-regulating system, viable system, living system, dynamic system, learning system, appreciative system, future-responsive system, etc. These formal notions provide the conceptual basis for the application and development of management systems approaches. They provide the much needed 'framework of ideas' which guide the action-like component of these approaches and in terms of which the research-like results are also expressed.

Three classes of formal notions of system could be identified in the literature: systems in the world, system to generate collective action, and system to generate collective control over action.

#### *Systems Methodology*

One or more systems methodologies are associated with every formal system notion. In general a methodology provides the conceptual guidelines to intervene in a situation so as to produce an instance of a general type of system. A systems methodology usually specifies the ways by which such an intervention could contribute towards the further improvement of the formal system notion involved or improve the methodology itself.

#### *System in the World*

Some of the management systems approaches focus on the reorganisation of a local environment such that a part of the environment is objectified into having some specific (pre-defined) properties, e.g., optimality, viability, etc. The objectified system is considered as an instance of a general category of systems, e.g., self-regulating system, living system, etc.

### *System to Generate Collective Action*

Some of the management systems approaches seek to introduce a specialised environment for interaction (e.g., micro-worlds, learning laboratories, etc.) among a set of actors such that they are able to initiate purposeful action as a collective. Examples of this strategy can be found in Soft Operational Research, System Dynamics, Soft Systems Methodology, etc.

### *System to Generate Collective Control Over Action*

A part of management systems thinking also concerns itself with systems that generate a collective control over action. It is based on the realisation that either of the above two types of system, when brought forth, can have undesirable side-effects. The remedy involves the creation of suitable institutional arrangements and conversational devices using which a set of actors (individual or collective) are able to exercise a degree of control over each other's actions. In effect, it creates a system that is responsive to various points of view concerning how the system ought to operate or change. An interest in this type of system notion can be noticed in Critical Systems Thinking and Critical Systems Heuristics.

### *Self-construction*

The notion of self-construction has been discussed in organisational cybernetics and second-order cybernetics. It seems to be a conceptual response to the apprehension that a system or a model can become an imposition in a local situation. It can also be argued to be a conceptual response to the challenge that arises due to the openness of the research object (see Subsection 5.5.2). Self-construction implies a process of communication or interaction among a set of entities that results in the formation of some stable identity of the interacting collective.

### *Problem of Diversity*

The use of fundamentally different system notions has been interpreted as offering a special challenge to the field of management systems. This is discussed within Critical Systems Thinking. It seems that the question of rationally choosing from among the system notions available a particular one to guide a practical intervention has become somewhat intractable. Associated with this is the problem of 'methodology choice'. The resolution of this intractability, as suggested in the literature, involves the invention of specialised languages (or other communicational devices) which can ensure a 'reflective conversation' among the researchers using different system notions.

## **5.5.3 Key Results from Chapter 5**

### *Research as a Form of Support*

The social practice of research makes demands on various public resources and the research institutions operate within the prevailing socio-political environment. The contemporary environment of research in many domains is characterised as one in which there are too many claimants on the limited public resources and too many voices against the negative side-effects of institutionalised scientific research.

This makes it difficult to legitimise research activities without also indicating whom it benefits. This leads to the conceptualisation of research as a form of support to some subject(s)/actor(s). The exact nature of this support still seems to be part of the academic debate.

### *Added Value*

Once research is recognised as a form of support, it becomes necessary to distinguish it from various other forms of support that may exist in a society. It was found that the literature refers to a distinction using the notion of added value. The added value of research is expected to accumulate through the effect of the recurrent practice of research. A discussion about many different types of added value (or accumulated results) still seem to be part of the academic debate. It seems possible to combine different notions of support and added value to build innovative models for the social practice of research. However, some of these models may not be acceptable in a society for cultural or ethical reasons.

### *Local Improvement*

Local improvement refers to the effect of the support that research provides in any specific instance. This must be an improvement from the standpoint of the specific users of the results of research, i.e., those whose actions are supported. However, this type of improvement is not enough to distinguish research from any other form of support. There must be some other benefit unique to the social practice of research. Another type of improvement, global improvement, is conceptualised to fulfil this requirement.

### *Global Improvement*

Global improvement refers to the benefit unique to the social practice of research as it is based on the concept of added value. Any model for the social practice of research ought to specify how the recurrent practice of such research produces some special advantages (added value) for the wider society and how and in what sense those advantages are translated into global improvements. Achieving any one type of improvement without also achieving the other can jeopardise research as a social practice and its demarcation from other social practices.

### *Operational Coupling Between Local Improvement and Global Improvement*

An operational linkage between the two types of improvement seems unique to research as a social practice. The linkage must be such that the two types of improvement have a critical and constructive effect on each other. Depending on how this operational linkage is implemented, there can be different models for the social practice of research.

### ***5.5.4 Probes for Exploring Practice***

Based on the insights derived from the literature review, it is possible to identify some probes for exploring the practice of action-oriented research which is the next stage of the present study. The exploration will focus on the activities of organisations or groups which apparently maintain a balance between a research-orientation and an action-orientation within their practice. The following questions will be used as probes to conduct this exploration. (This does not mean that these will be the questions which will be asked in the interviews.)

- (i) Whether the practice constitutes a support to a specified target group or clientele?
- (ii) What type of quality criteria are employed (if any) to assess the effects of such support?
- (iii) How is the issue of the openness of the research object addressed?
- (iv) Whether it involves the construction of some new structures or collective resources?
- (v) Whether there is any local resistance encountered and if so how is it addressed?
- (vi) Whether there is any form of accumulation, e.g., an accumulation of competence?
- (vii) Whether any formal notions (e.g., formal notions of system) are involved in the practice?
- (viii) Whether any formal methodologies are involved?
- (ix) Whether the problem of diversity is posed and addressed?
- (x) Whether there is an implementation of the notion of operational coupling?
- (xi) Whether there is a preparedness to maintain a critical debate about the practice?

The next chapter will describe the exploration of the practice of action-oriented research in India conducted by the author during August 1997 - January 1998.

## Exploring the Practice of Action-oriented Research in India

### 6.1 Purpose of the Exploration

As part of the study, a 6 months' exploration of the practice of action-oriented research was carried out in India during August 1997 - January 1998. The exploration was meant to develop an appreciation of the variety of activities having the flavour of action-oriented research presently going on in India and explore deeper into the various conceptions of the practice in terms of the probes identified at the end of Chapter 5. The background knowledge of the author indicated that such practice could be taking place in a wide variety of fields and through a wide variety of organisations. Therefore the exploration had to involve the following:

- Visiting as many locations as possible to keep the scope sufficiently wide in terms of the domain of activity, the nature of activity, and the type of client being served.
- Collecting oral and written reports from the organisations and groups engaged in action-oriented research in terms of the probes identified at the end of Chapter 5.
- Using the above reports to identify some key conceptual elements generic to action-oriented research.

### 6.2 Method of Exploration

#### 6.2.1 Choice of Organisations Contacted

The author's background knowledge indicated that the terms 'action research' and 'systems practice' were not being used commonly in India. The expressions 'action research' and 'participatory research' were being used occasionally in what is called the development sector. The expression 'systems thinking' was being used by a few management schools and management consulting organisations. Therefore, it was felt that identifying organisations based solely on their use of such expressions might unduly restrict the range of activities covered under the exploration.

This led to some reflection about the general features that might qualify an organisation to be visited during this exploration. The notion of a general feature should not however be interpreted too rigorously here because it is meant merely as a practical guide. In fact, it is part of the aims of this study to explore whether any general notions can be used to refer to action-oriented research at all. The following general features were considered as a practical guide to identify and select the organisations to be visited:

The organisation must be involved in the provision of some support to a client (or group of clients), given that one or more of the following features can be noticed in the provision of such support:

- an attempt to *improve* (directly or indirectly) the quality of some action, behaviour, functioning, performance, practice, programme, service, etc., through the *support* provided;
- an interest in *ensuring a certain level of quality*, robustness, and endurance in the support that is provided;
- a recognition of the *openness* of that which is being studied, e.g., the class of things which make for the improvements in the action, behaviour, functioning, etc.;
- a degree of interest in the *local resources* (or collective resources) of the clients whose action, behaviour, functioning, etc., are sought to be improved; and
- an interest in building some type of *competence* within the targeted client group.

These features obviously come from the overall interests of this study as well as the concepts derived from the literature review. A number of organisations which are known for their activities and interests of the above kind could be identified, partly based on prior information and partly with the help of academic and non-academic colleagues in various institutions in India. A selection of such organisations was finalised based on a convenient route plan, an organisation's interest in the proposed conversation, and other such contingencies. Altogether, seven States (Andhra Pradesh, Delhi, Gujarat, Kerala, Maharashtra, Orissa, and Rajasthan) and one Union Territory (Pondicherry) were visited (see States of India page at <http://www.meadev.gov.in/map/indmap.htm>). The following is an alphabetical list of the 30 organisations contacted during the exploration.

1. Academy of HRD, Hyderabad
2. Auroville, Pondicherry
3. Baan Institute India, Hyderabad
4. Behavioural Science Centre (BSC), Ahmedabad
5. Blind Men's Association, Ahmedabad
6. Centre for Development Research and Documentation (CDRD), Pune
7. Centre for Organization Development, Hyderabad
8. Centre for Science and Environment (CSE), New Delhi
9. Centre for Social Studies, Surat
10. Centre for World Solidarity, Secunderabad
11. Department of Agriculture, Government of Maharashtra, Mumbai
12. Development Alternatives, New Delhi
13. Eklavya Educational Foundation, Ahmedabad
14. Foundation for Humanization, Mumbai
15. Gujarat Institute of Development Research (GIDR), Ahmedabad
16. Indian Institute of Health Management Research (IIHMR), Jaipur
17. Indian Society for Applied Behavioural Science (ISABS), New Delhi
18. Indian Society for Individual and Social Development (ISISD), Ahmedabad
19. Institute of Development Studies, Jaipur (IDSJ)
20. Kulkarni Consultants, Pune
21. Lokayan, Delhi
22. Malaria Research Centre, New Delhi
23. Mitraniketan, Vellanad, Kerala
24. National Institute of Agricultural Extension Management (MANAGE), Hyderabad
25. Ravi J. Matthai Centre for Educational Innovation, Ahmedabad
26. Sikshasandhan, Bhubaneswar
27. Society for Participatory Research in Asia (PRIA), New Delhi
28. Society for Promotion of Area Resource Centres (SPARC), Mumbai



29. Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI), Ahmedabad
30. Systems Research Institute, Pune

It might be argued that a longer interaction although with fewer organisations might have yielded information of greater depth and higher quality. But, in this study, there was an interest in exploring variety. The expectation was to get an idea about the current range of activities in India in which a research-orientation is being brought as a special form of support within the context of improving upon some practical activities.

As argued in Chapter 2 (especially in Subsection 2.3.2), the present study requires an exploration of the practice of action-oriented research in order to identify a broad range of issues that arise in such work and the range of concepts being used to address these issues. *The methodological choice emphasised an exploration of the variety of issues and concepts emerging in this domain at the expense of exploring the complex dynamics of individual organisations involved in this domain of work.*

### **6.2.2 Collection of Reports**

The so-called probes identified at the end of Chapter 5 provided the preliminary framework to begin the process of exploration. These probes are reproduced below:

- (i) Whether the practice constitutes a support to a specified target group or clientele?
- (ii) What type of quality criteria are employed (if any) to assess the effects of such support?
- (iii) How is the issue of the openness of the research object addressed?
- (iv) Whether it involves the construction of some new structures or collective resources?
- (v) Whether there is any local resistance encountered and if so how is it addressed?
- (vi) Whether there is any form of accumulation, e.g., an accumulation of competence?
- (vii) Whether any formal notions (e.g., formal notions of system) are involved in the practice?
- (viii) Whether any formal methodologies are involved?
- (ix) Whether the problem of diversity is posed and addressed?
- (x) Whether there is an implementation of the notion of operational coupling?
- (xi) Whether there is a preparedness to maintain a critical debate about the practice?

The above issues formed the basis for the unstructured interviews, informal group discussions, formal seminars, study of internal documents and the secondary literature where available, as well as the extended conversations through ordinary and electronic mail. The following (or similar) questions were asked in the unstructured interviews:

- (i) What are the general tasks of your organisation?
- (ii) Who are your clients and what is their role in the process?
- (iii) How do you view your own role and how do you evaluate your (or your organisation's) activities?
- (iv) Do you use any standard method or approach in your work?
- (v) What obstacles and difficulties do you have to deal with in fulfilling your tasks?
- (vi) How do you attempt to learn from your experience and improve your activities?
- (vii) What sort of interactions do you have with various other organisations?

It might be noted that the conversations took place in various Indian languages, mainly English, Hindi, Oriya, and Bengali. *Most of the individuals contacted seemed to be enthusiastic about the study. The need for ongoing critical debate about the contribution of research to secure practical improvements in social and organisational situations was expressed again and again. Most of the individuals viewed such conversations as necessary for future managerial and social innovations in India.*

These conversations yielded abundant discussion notes and a collection of primary and secondary literature. A summary of these reports is presented in *Appendix B*. The summary will be used as the basis for the subsequent reflections.

### **6.3 A Note on the Diversity**

The summary presented in *Appendix B* captures only a fraction of the conversations and experiences had during the exploration. Although a small fraction, it still indicates a wide range of issues relevant to the study. Each organisation provides a specific slant to how action-oriented research might be visualised, or even talked about. *But together the reports highlight a number of crucial elements in any systematic support within the world of actions, where the form of support might be likened to research but not always limited to it.* The actions which are supported by the organisations pertain to important concerns of private, organisational, and community life in India.

These seem to touch upon the problem areas that have assumed an intractable dimension in contemporary India. A list of these problems is not being attempted here, lest the list itself might become intractable. Past experience has shown that the speed and intensity with which such problems are expanding are far greater than the individual, organisational, and societal capacity to confront them.

However, the organisations mentioned above appear to stand for innovations in dealing with them. Many of them appear to effect a break with the conventional academic wisdom and appear to point in new directions. It will be the aim of the present exploration to characterise the nature of this break and the nature of the new direction(s). It will remain to compare this with what has been gleaned from some of the current debates in the relevant academic literature and to capture the substance of what has been learnt in terms of a suitable conceptual framework.

### **6.4 ‘Patterns which Connect’**

This section strives to develop an understanding of the work done by the organisations contacted (see *Appendix B* for a report on their activities). Although the organisations were intuitively identified following a set of features that broadly characterise the support they provide to individuals, organisations, communities, or society at large (see Subsection 6.2.1), it is not immediately obvious whether there is something like a principle or approach that might be common among them.

The purpose of looking for what might be common, i.e., the ‘patterns which connect’ (the expression is from Bateson, 1979), is consistent with the broad purposes of this entire study

(see Section 1.2), which includes developing a generic conceptual framework to guide work in the area of action-oriented research.

The most basic notion that seems part of the ‘patterns which connect’ is that of **support**. It remains to reflect in greater depth and detail the various adaptations of this notion immanent in the reports obtained from the organisations visited. The reflections would include the conditions, methods, criteria, effects, wider implications, possibilities, and problems, etc., of such adaptations of the notion of support. To start with this process of reflection, the general notion of support needs to be articulated and clarified a little further. Although the notion of support might be explicated in various ways, the interest here is on *research-based support* (or support through research). As identified in the literature review, the following elements are central to this:

(a) *Local improvement*: This is the demonstration of the contribution (if any) of research-based support in a specific instance. It refers to the actual (i.e., reported, expressed) difference the provision of the support makes to the recipients of the support. Such improvement could be expressed in terms of greater efficiency and effectiveness of an operation, greater capacity to accomplish something, greater chance of survival, enhanced potential to act, etc. The organisations contacted might be visualised as pursuing various *local improvements* for different clients. Sometimes the same client group might receive different types of support from different sources/organisations.

(b) *Collective resource*: As identified in the literature review, action-oriented research tends to involve the construction of a *collective resource* (may be an instance of a *system*) within the context where the practical improvements are being pursued. The action research literature refers to different kinds of *resource* such as *auto-therapeutic organism* (Action Learning), *community of inquiry* (Action Science), *liberating structure* (Action Inquiry), *self-reliance promoting organisation* (Participatory Action Research), and *co-operative inquiry group* (Co-operative Inquiry). The management systems literature refers to different notions of system, e.g., *queuing system*, *self-regulating system*, *viable system*, *living system*, *dynamic system*, *learning system*, *appreciative system*, and *future-responsive system*. Some other kinds of *resource* discussed earlier (in Chapter 5) include *information space*, *local accomplishment*, *shared reality*, etc. Such *resources* have been described in the literature using different vocabularies (sometimes interpreted as belonging to different ‘research paradigms’). Methods of bringing forth such *resources* have been prescribed in the literature. It might be worthwhile to reflect on the possible involvement of such *resources* in the support provided by the organisations contacted.

(c) *Global improvement*: This seems to be a special feature of *research-based support* as identified in the literature review. It refers to the notion of *scientific progress* (or *added value*) involved in any specific adaptation of research. It implies that the *resource*, which is brought to bear on a situation to effect a *local improvement*, should not be viewed as a miraculous achievement but one that comes forth through the application of some frameworks, methods, rules, forms of communication, etc., given the right conditions. *Global improvement* is expected to arise from a systematic study of such *local improvement*. The aim is to be able to replicate the success, demonstrate the power of what has been learnt, etc. Practically speaking, this would imply a progressive development of the type of *resource* as well as the method of bringing it forth. It would be interesting to explore whether the organisations contacted recognise the need for such a process of *global improvement* and, if they do, how they fulfil it in practice.

## 6.5 Analysing the Reports

### 6.5.1 Local Improvement

An examination of the reports reveals a broad spectrum of *local improvements* being referred to by the organisations contacted. The contexts of such *local improvement* include a variety of clients (i.e., the intended beneficiaries of the *local improvement*) receiving different kinds of support. The field reports contain examples of different kinds of *local improvement*. The reports also refer to different kinds of events and potentialities obstructing or facilitating such improvement. This implies a need for the support providers to continually assess whether the intended improvement is taking place or not. The method of such assessment seems to be a somewhat unclear area in the reports. Although the need for such assessment was expressed in the interviews, there was always a question mark with respect to how it might be implemented in practice. One of the difficulties seems to be with respect to the variety of ways in which the need for, and the achievement of, such support is expressed.

#### *Different Clients*

The different types of client involved in the work of the organisations include: business organisation, caste group, child, citizen, development organisation, educational institution, farmer, government committee, grassroots innovator, individual human being, pavement dweller, people with disabilities, planner, policy maker, profession, project implementing agency, small group, teacher, tribal group, user of service, user of system, welfare organisation, women's group, village, village cluster, and voluntary group. Most of these client groups receive support from more than one source (see Table 6.1 below).

#### *Different Kinds of Support*

The kinds of support referred to in the reports are quite diverse and cover different spheres of life and work of the clients. Some kinds of support refer to a specific domain of action (e.g., agricultural know-how for farmers), whereas some kinds of support refer to a more general type of capacity building (e.g., network for creative interaction and dialogue for voluntary groups). Sometimes the support providers to one group of clients become themselves the clients of another support provider. For example, the client 'business organisation' receives 'professional support', whereas the 'profession' itself needs various kinds of support in order to maintain and improve itself (see Table 6.1 below)

#### *Different Kinds of Challenge*

This aspect was highlighted in most of the interviews. Many challenges to an effective provision of support were mentioned. It was not always clear what an appropriate (or a best) form of support might be, or what type of support should get priority. In most cases the difficulty seems to have been resolved by focusing on what a support organisation is capable of providing. However, a whole range of difficulties emerge in carrying out the operations of a support organisation. The difficulties of shortage of resources, non-availability of skills and know-how, unclear direction, absence of mandate, sagging morale, rigid mindsets, lack of preparedness on the part of clients, wider inequalities in society, etc., have been reported. Other difficulties referred to are the enormity and the complexity of some of the clients'

problems requiring the provision of multiple forms of support in a co-ordinated manner. In many instances results are not expected in the short run, making it additionally difficult to assess whether the support provided is being effective at all.

### *Discussion*

This broad variety of clients, kinds of support, and kinds of challenge implies that the general notion of *research-based support* has to allow a variety of notions of *local improvement*. The general notion might be expected to indicate ways of recognising that a *local improvement* has taken place. However, given the multiplicity of issues and difficulties mentioned above the notion of *local improvement* is likely to remain unanalysable in the end allowing a degree of openness with respect to evaluating whether a *local improvement* might have taken place or not. This might as well act as a *source of variation* in the entire process of *research-based support*.

### **6.5.2 Collective Resource**

An analysis of the reports indicates that there might be different forms of such *resources* being brought to bear on the local context of support. The following table, though not fully exhaustive, identifies some of these *resources* for different client groups served by the organisations (based on the material reported in *Appendix B*).

**Table 6.1 Different resources to support different clients**

<b>Client</b>	<b>Forms of resource involved in the support</b>
Business organisation	Individual and organisational assessment system Dynamic business management system Green Rating System Decision support system
Caste group	Self-maintained organisation (brought about through dialogue) Source of know-how (technical and managerial)
Child	Folk School for excluded children Space for greater expression Primers in own dialect Support organisation for street children
Development organisation	System to provide evaluation of the organisation's services Space for conversation and debate Educational resource centre
Educational institution	Educational profession Instructional system Source of know-how
Farmer	Space for joint experimentation Self-maintained collaboration for pest-control Farming system Agricultural research and technology dissemination system
Government committee	Source of recommendations
Grassroots innovator	Knowledge network Support organisation for commercialisation

<b>Client</b>	<b>Forms of resource involved in the support</b>
Individual human being	Space (an international city) for harmonious life and unending education Source of information about science and environment Social structure to avoid dehumanisation Group environment for self-analysis and self-transformation Group environment for exploring life space and identity Self-designed shelter
Pavement dweller	Area resource centre
People with disabilities	Support organisation Community-Based Rehabilitation system
Planner	Source of information about science and environment Geographical information system
Policy maker	Source of information about science and environment Green Rating System System for providing information on health status and behaviour
Profession	Communication network System to set professional standards through experimentation Professional association Learning laboratory
Project implementing agency	System to provide process documentation
Small group	Context for experiential learning Environment for exploring life space
Teacher	Educational profession Space for promoting lateral learning
Tribal group	Self-generated organisation brought about through dialogue Source of know-how (technical and managerial)
User of service	Context to share experience Alternative system for managing family welfare programme System of co-ordination between health service providers
User of system	Context for modifying the system
Welfare organisation	System to provide evaluation of services Alternative system for managing family welfare programme
Women's group	Self-generated organisation brought about through dialogue Source of know-how (technical and managerial) Self-generated support organisation
Village/community	System for sustainable livelihoods System for developmental support Community-oriented bioenvironmental management
Village cluster	Brick manufacturing unit for using local material Technology resource centre Common Facility Centre for wool processing Organisation for providing life-relevant education Information resource centre

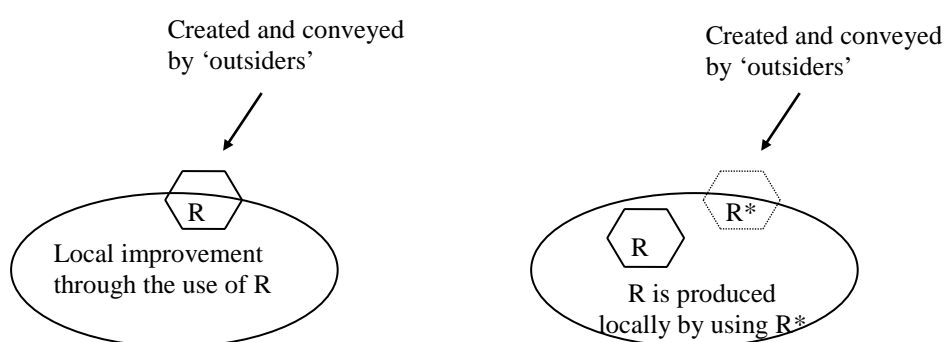
<i>Client</i>	<i>Forms of resource involved in the support</i>
Voluntary (self-help) group	System for producing financial resources Support organisation Network for creative interaction and dialogue Space for experience sharing and dialogue

### *Different Breeds of Resources*

It seems possible to recognise different breeds among the various forms of *resources* presented in Table 6.1 above. This might be done by recognising the distinct patterns in the process of their creation, maintenance, development, and their use for *local improvement*. It seems that some forms of resources might be produced and improved somewhat independent of the specific context of their use (e.g., *Green Rating System*, *primers in own dialect*, *source of know-how*, etc.), a possibility not always open to some other forms of resource (e.g., *space for greater expression*, *self-maintained collaboration for pest-control*, *self-generated support organisation*, *network for creative interaction and dialogue*, etc.). For the latter group of *resources*, their production and use seem to be somewhat inseparable.

In situations where the production of a *resource* can be conceived as operationally distinct from its use, there is an opportunity for producing the *resource* elsewhere and conveying (transferring) it into the relevant *context of support*. For these *resources*, it is possible to recognise the receivers of the support as the *users* of the *resource*. Of course, there would be a need for continuous interaction between those responsible for producing and conveying the *resource* to the *context of support* (i.e., the ‘outsiders’) and those who use it within that context (the ‘insiders’), in order to ensure that the *resource* is available, accessible, useful, being properly used, has the desired effects, and has no serious negative side effects. In situations where the creation (production) of a *resource* cannot be conceived as operationally distinct from its use, the use is likely to be a part of the continuous production process itself. In the forms of support based on such resources, the receiver of the support might be seen simultaneously as a *producer* and a *user* of the resource. In this case, the ‘insiders’ have to play the roles of the ‘outsiders’ as well.

This occasions some reflection about the new role of the ‘outsiders’ now, if any. The field reports throw some light on what this new role might be. It seems the new role might involve identifying a new task such that the old role might be played again. In other words, it might involve creating and conveying *new forms of resource* (depicted as R\* in Fig. 6.1) using which the ‘insiders’ can now produce and use some other *resources*. Examples of such *new forms of resource* might be: *source of know-how*, *technology resource centre*, etc. A general aim of this type of support seems to be to help the ‘insiders’ become adept users of the so-called *new resource* such that they can become more effective participants in creating and using various other types of *resource*, e.g., *self-generated support organisation*, *system for sustainable livelihoods*, etc.



**Figure 6.1 Breeds of resources**

### 6.5.3 Global Improvement

The term *global improvement* refers to the results of a systematic study of the *local improvement*, i.e., how it arises, what effects it has, whether it can be achieved in a different context, whether the *resource* involved in it and the process of bringing it forth can be improved, etc. As identified in the literature review, such *global improvement* is a characteristic feature of *research-based support*. It would be worth examining whether and how such a process of *global improvement* is referred to in the field reports. The notions pertaining to *global improvement* which could be recovered from the reports are presented below in Table 6.2.

**Table 6.2 Notions pertaining to global improvement**

<b>Organisation</b>	<b>Form of resource involved in the support provided</b>	<b>Notions pertaining to global improvement</b>
Academy of HRD, Hyderabad	Professional knowledge in HRD	Development of the professional knowledge through case studies, training programmes, etc.; striving to build capacity in organisations to effectively use the professional knowledge
	Individual and organisational assessment system	Ways of making the system broader in scope and more reliable; guidelines for implementation
Auroville, Pondicherry	Space (an 'international city') for harmonious life and unending education	Further elaboration of the space through experimental projects in agriculture, education, energy, health care, etc.
Baan Institute India, Hyderabad	Business management software	Development of the software to provide a greater degree of control to the users
Behavioural Science Centre (BSC), Ahmedabad	Support organisation (The aim is to help people create their own organisations to support themselves. BSC functions as a source of financial support, training, conscientisation, etc.)	(no clear report; there is a question about what to do next)
		There is an interest in the <i>framework</i> of 'participatory research'.



<b>Organisation</b>	<b>Form of resource involved in the support provided</b>	<b>Notions pertaining to global improvement</b>
Blind Men's Association, Ahmedabad	Devices for the handicapped (e.g., tricycles)  Community-based rehabilitation system	Progressive development of the devices based on users' feedback  Further development of the <i>methodology</i> of community-based rehabilitation
Centre for Development Research and Documentation (CDRD), Pune	System to provide evaluation of services of other organisations	(no clear report, although there seems to be an interest in discussing various methods of evaluation)
Centre for Organization Development, Hyderabad	Context to share experience (workshops for senior managers)	(no clear report)
Centre for Science and Environment (CSE), New Delhi	Source of information about science and environment (for the interested)  Green rating system	There seems to be an effort to enhance scope, visibility, access, impact, etc.  (no clear report; the system is under development)
Centre for Social Studies, Surat	Source of recommendation (for the commissioners of research projects)	(no clear report; there is some attempt to ensure implementation through membership in various committees and boards)
Centre for World Solidarity, Secunderabad	Space for joint experimentation (for scientists, farmers, and communities)  Self-maintained collaboration for pest-control (the Centre is still striving to achieve it)	Maintaining the space; widening the scope (in terms of crops, farming system, regions, etc.)  (no clear report; still exploring ways of producing and maintaining such collaboration )
Department of Agriculture, Government of Maharashtra, Mumbai	Agricultural research and technology dissemination system (at the levels of different States and the whole country)	Improvement of the system by adopting the framework of <i>farming systems research</i>
Development Alternatives, New Delhi	System for sustainable livelihood  Brick manufacturing unit that uses local raw material  Technology resource centre	(The so-called technology resource centre might be viewed as the R* using which people might create systems for sustainable livelihood.)  Technical improvements to the unit to suit local material and conditions of use  Expansion and development of the centre as a model for generating sustainable livelihoods

<b>Organisation</b>	<b>Form of resource involved in the support provided</b>	<b>Notions pertaining to global improvement</b>
Eklavya Educational Foundation, Ahmedabad	Educational management profession	There is an attempt to build and improve the image of the profession; set professional standards through experimentation
Foundation for Humanization, Mumbai	Social structure to avoid dehumanisation  Group environment for self-analysis and self-transformation	(There is an attempt to produce such structures by spreading a 'humanist attitude' and promoting 'self-transformation' through neighbourhood activities, weekly meetings, newsletters, campaigns, etc.)  (no clear report on any systematic study of the process involved)
Gujarat Institute of Development Research (GIDR), Ahmedabad	System to provide 'process documentation'	(no clear report; there is some interest in discussing the <i>methodology</i> and the effects of 'process documentation research')
Indian Institute of Health Management Research (IIHMR), Jaipur	District-level system for managing the Family Welfare Programme  Improved co-ordination between health service providers	Development of the system for possible replication in different districts.  (There is an interest to discuss why this is so difficult to achieve.)
Indian Society for Applied Behavioural Science (ISABS), New Delhi	Context for experiential learning created through the use of T-Groups	The Society strives to produce professionals having 'process competencies' who would facilitate experiential learning in organisations by replicating such contexts
Indian Society for Individual and Social Development (ISISD), Ahmedabad	Group environment for exploring <i>life space</i> and <i>identity</i> using various 'process technologies'	The Society also strives to produce professionals who would conduct such 'process work'
Institute of Development Studies, Jaipur (IDSJ)	Common Facility Centre (CFC) for wool processing at the village level	Producing and maintaining the required co-operation among various parties in order to set up a Primary Sheep Rearing Organisation which will run the CFC
Kulkarni Consultants, Pune	Instructional systems for educational (and training) establishments	Ways of making such systems more adaptive to changing demands on them
Lokayan, Delhi	Network for creative interaction and dialogue among local groups	Developing <i>frameworks</i> to understand and change 'reality'
Malaria Research Centre, New Delhi	Community-oriented bioenvironmental management	(no clear report; concerns have been expressed by others regarding the sustainability of such systems)
Mitraniketan, Vellanad, Kerala	Folk School for excluded children for providing life-relevant education	(There is a continuous search for appropriate education through various experimental and collaborative activities)

<b>Organisation</b>	<b>Form of resource involved in the support provided</b>	<b>Notions pertaining to global improvement</b>
National Institute of Agricultural Extension Management (MANAGE), Hyderabad	Space for joint experimentation (for farmers, agricultural scientists, communities, etc.)	Further development of the general <i>approaches</i> of 'Farming Situation Based Extension' and 'farming systems research'
Ravi J. Matthai Centre for Educational Innovation, Ahmedabad	Space for promoting lateral learning (among teachers and administrators) (via the newsletter <i>Kayakalp</i> )	(no clear report)
Sikshasandhan, Bhubaneswar	Educational resource centre	Strengthening of the resource centre for a variety of user groups (teachers, education officials, tribal communities, etc.)
Society for Participatory Research in Asia (PRIA), New Delhi	Context for experience sharing (for people from various section of society and various organisations)	Developing the framework of 'participatory research' to explore ways of making such contexts more effective
Society for Promotion of Area Resource Centres (SPARC), Mumbai	Self-designed shelter	(There is an interest in imparting the necessary know-how —might be viewed as the R*— using which the recipients design their own shelters)
	Self-generated support organisation (for pavement and slum dwellers and street children)	Development of the <i>frameworks</i> of 'self-organisation' and 'self-maintenance'
	Area resource centre	Strengthening and expanding the centres using the <i>framework</i> of 'survival network'
Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI), Ahmedabad	Database of grassroots innovations; context for greater communication among grassroots innovators; support organisation for commercialisation of such innovations	Development of the <i>frameworks</i> of 'research network', 'knowledge centre', and 'knowledge networks', 'solution augmentation', etc.
Systems Research Institute, Pune	Decision support system	(no clear report)
	Geographical information system (GIS)	Developing 'information resource centres' for village-clusters which provides a context for the use of the GIS to facilitate village-level planning and co-ordination

*Summary of the notions pertaining to global improvement  
(Based on the third column of Table 6.2 above)*

- (i) Developing professions in terms of competence, image, knowledge, standards
- (ii) Striving to build capacity in organisations to effectively use professional knowledge

- (iii) Finding ways of making a system broader in scope, more reliable, and more sustainable
- (iv) Improving the implementation of a system through clearer guidelines
- (v) Elaborating a 'space' through experimental projects
- (vi) Developing a software to provide a greater degree of control to the users
- (vii) Specifying and developing the *frameworks* of 'participatory research', 'farming systems research', 'self-organisation', 'self-maintenance', 'survival network', 'research network', 'knowledge centre', 'knowledge networks', and 'solution augmentation'
- (viii) Progressively developing technological devices based on users' feedback
- (ix) Developing the *methodologies* of 'community-based rehabilitation', 'farming situation based extension', 'process documentation research', and 'community-oriented bioenvironmental management'
- (x) Enhancing the scope, visibility, access, impact, etc. of a source of information
- (xi) Co-ordinating multiple interventions to produce global effects, e.g., a 'humanist attitude'
- (xii) Developing a management system for possible replication in different contexts
- (xiii) Ensuring the durability and utility of a resource (e.g., through a Primary Sheep Rearing Organisation and 'information resource centre')
- (xiv) Making systems more adaptive to changing demands on them
- (xv) Strengthening a 'resource centre' for a variety of user groups (teachers, education officials, tribal communities, etc.)

The above analysis shows that some (more than 20, out of a total of 30) of the field study organisations have reported about some notion(s) pertaining to *global improvement* with respect to one or more of the domains of their activity. From among them, a smaller number (about 15) seem to be engaged in specifying and developing the notion(s) involved. Only a few (about 5 or 10, depending on how much ambiguity is tolerated) have given some indication about how the *local* and *global* might be *operationally coupled* (see Section 5.4, for an introduction to the notion of *operational coupling* between *local* and *global improvements*).

Although the notion of *local improvement*, seems to be part and parcel of the practice of action-oriented research in India, the associated notions of *global improvement* and *operational coupling* do not seem to emerge strongly. This state of affair seems to agree with the status of the academic literature reviewed earlier. (A fellow researcher might be interested in exploring whether the latter two notions emerge strongly in a different social context.) As indicated in Table 6.2, a number of organisations seem to be aware of the need to implement some process to ensure *global improvement* in an ongoing manner although it is not always clear what such processes might be and how to implement them. As a result, it is not always possible to discuss the short-term and long-term contributions of their activities in a systematic manner, let alone the possibility of maintaining a constructive and critical discussion about it.

## 6.6 Key Results from the Exploration of Practice

The second major step in the study has now been completed. It involved an exploration of the practice of action-oriented research in India. The main aim of this exploration was to identify some key conceptual elements pertaining to the practice of action-oriented research which

might be used in constructing a conceptual framework to guide such research in a wide range of application domains. This involved the identification of some significant abstractions that relate to the practice of action-oriented research irrespective of the application domain. The conceptual elements (or abstractions) derived will now be outlined.

### *Forms of Collaboration Between Outsiders and Insiders*

The notion of *studying something from outside or inside* was identified in the review of the Action Research family of literature (see Subsection 5.5.1). The author's exploration of the practice of action-oriented research in India suggests that the practice is founded on the possibility of a successful interaction between the two domains, i.e., outside and inside. The practice of research-based support generally involves the bringing forth of something within a context such that it functions as a resource in that context, to be used for the improvement of some practical situation. Some types of resource (see *Breeds of Resource* below) might be studied and designed as if from the *outside*. However, the overall task of research-based support also involves transferring the resource inside the context of support and ensuring that its use therein helps in the achievement of some local improvement. Practically speaking, such resources undergo continuous modifications while in use. Methodologically speaking, the production of the resource in this case starts as an outside process but becomes an inside process. An example of this type of resource is a *Green Rating System*. There can be another type of resource for which a reverse situation might occur. It can start as an inside process and eventually assume a form such that it might be studied from the outside. An example of this type of resource is a *self-generated support organisation*.

The concept of a successful collaboration between the outside and inside appears too important for the practice of action-oriented research. Fellow inquirers in this area might explore this concept further and identify the forms such collaboration might take. Various forms might be identified (rationally or empirically), but not all might be equally effective in ensuring that both local and global improvements occur in an interdependent way as required for a research-based practice.

### *Breeds of Resource*

This concept is an elaboration of the concept of the *construction of a collective resource* described earlier (see Subsection 5.5.1). Many such resources were identified in the exploration of the practice of action-oriented research in India. Such resources might assume the form of some special environment, network, practice, profession, resource centre, source of information, source of know-how, space, support organisation, or specific system, etc. Several ways to classify such resources seems possible. One way of classification might be, as has been alluded to earlier, based on the form of collaboration it requires between the outside and the inside. Whatever be the way of classification, it should ideally help in guiding the practice of action-oriented research and in sustaining a critical debate about it.

### *Producership Role*

This refers to the role of producing (or bringing forth and maintaining) a resource that is used within a context to improve upon some practical activity. This role may involve different kinds of task and skill depending upon the breed of resource involved. Some breeds of resource might be produced and improved somewhat independent of the specific context of their use. For some other breeds of resource, their production and use seem to be somewhat

inseparable. However, in general, the practice of action-oriented research seems to involve resources which need to be maintained and developed progressively while in use. Consequently, there is a need for continuous interaction between the producers and the users. This is more so in situations where the production of a resource cannot be conceived as operationally distinct from its use, i.e., where the use is a part of the continuous production process itself. Sometimes the resource is meant to be produced by the would-be users themselves. In such cases the form of external support might involve the provision of some *new forms of resource* (might be visualised as tools, methodologies, support systems, etc.; depicted as R\* in Fig. 6.1) using which the would-be users can produce some other resources.

### *Usership Role*

The role of usership might be visualised as analytically distinct from the role of producership, although in practice it is possible that the same individuals, groups, or organisations can play both the roles. This role involves a degree of interaction with the producers of a resource because such interaction seems essential in the maintenance and the continuous development of the resources involved in the type of practice being discussed here. In practice, there can be different users expecting different things from a resource. This might create some practical difficulties. If these difficulties are not resolved in the interaction between the producers and the users, there would be a need for a third role to improve the situation.

### *Improvership Role*

This role involves a *systematic study* of the processes of production and use with an aim to produce global improvements. Under the broad banner of global improvement, there can be several specific aims to be fulfilled through this role. These can include the following aims: greater replicability of a particular form of support, progressive improvement of the resource (beyond what is possible in the interaction between the producership and usership roles), systematic development of the frameworks, approaches, and methodologies used in such activities, creative development of new types of resource, etc.

### *Forms of Interaction*

In the practice of action-oriented research, the three roles could be in intense communication and exchange with each other, provided the opportunity to do so exists. The need for such interaction is felt in the practice of such research. Even conceptually, as stated in the paragraphs above, an interaction between the producers and the users becomes necessary as neither is able to guarantee that the resource will continue to function as a useful resource in the context of its use. Besides, certain difficulties may not get resolved through the prevailing forms of interaction. It becomes the responsibility of the improvership role to develop new forms of interaction which can overcome these difficulties.

### *Some Difficult Issues*

It would be rather miraculous to find the three roles functioning in a well co-ordinated manner, because there can be too many forces working against such smooth functioning. Such forces can include: various existing resources and associated processes, multiple ideas about what new resources can be produced and how to produce them, multiple users making multiple demands on the resources as well as on each other, several existing and emerging approaches to study and influence the process of production and use of resources, the

openness with respect to establishing whether *local improvements* have occurred, various barriers against *global improvement*, etc. The situation might be articulated in terms of what was referred to as the *problem of multiple 'frameworks of ideas'* while discussing the open issues pertaining to research and improvement in Subsection 5.4.3 (see Figure 5.2), or in terms of what was referred to as the *problem of diversity* in Subsection 5.5.2.

It might be conceptualised that, the main challenge of action-oriented research is to find ways to orchestrate and manage the information, communication, and interaction among the three roles—producership, usership, and improvership—such that both local improvement and global improvement are achieved in a mutually interdependent way. This means, a successful demonstration of action-oriented research should involve the demonstration of an increased ability to bring forth new entities which function as resources within the contexts obtained in practical or professional domains. The next chapter will strive to identify some *integrative notions* to represent this 'increasing ability to bring forth new entities' and develop the generic conceptual framework around it by making use of the various conceptual elements identified so far (i.e., the ones identified in this section and the ones identified in the literature review, see Subsection 5.5.1).

## A Generic Conceptual Framework for Action-oriented Research

*How can we ever produce an altogether new thing in scholarship? We are only considering the special effects of ordering concepts differently.*

—Jayanta Bhatta, probably 9<sup>th</sup> century (Author's translation from Sanskrit).

### 7.1 Issues and Concepts in Action-oriented Research

The following issues and concepts have emerged through the review of the literature on action-oriented research and an exploration of the practice of such research in India:

*From the action research family of literature:*

1. Studying something from outside or inside
2. Construction of new patterns
3. Local resistance
4. Openness of the research object
5. Accumulation of competence
6. Construction of collective resources
7. Quality criteria in research

*From the management systems thinking family of literature:*

8. Vocabulary of systems
9. Formal notions of system
10. Systems methodology
11. System in the world
12. System to generate collective action
13. System to generate collective control over action
14. Self-construction
15. Problem of diversity

*From the literature linking research and practical improvements:*

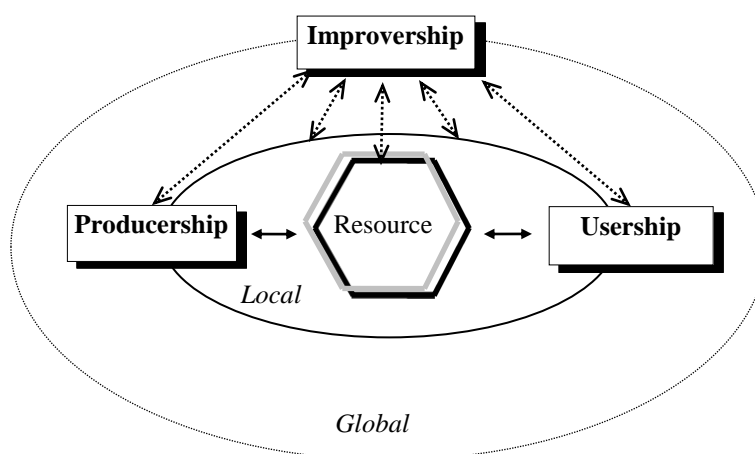
8. Research as a form of support
9. Added value
10. Local improvement
11. Global improvement
12. Operational coupling between local and global



*From the exploration of action-oriented research in India:*

8. Forms of collaboration between outsiders and insiders
9. Breeds of resource
10. Producership role
11. Usership role
12. Improvership role
13. Forms of interaction
14. Some difficult issues

The following is an attempt to relate all these concepts and issues in a coherent way. The figure below visualises two levels of concern in action-oriented research: *local* and *global*. At the local level, a useful *resource* is produced and used in order to engender some local improvement. This involves the two roles: *producership* and *usership*. There is a need for a continuous interaction between these two roles, the form of which depends on the breed of the resource in question. A number of local issues might get resolved at the local level itself. However, if the local issues tend to build up too much pressure (e.g., too much pressure on the form of interaction between the two local roles), then some external support might be sought. The external role is visualised as the role of *improvership*, one that operates at the global level. The aim of improvership is to provide the required support to the local level such that the tensions and pressures at that level are reduced. This can include the provision of new forms of interaction, developing designs for new and alternative resources, etc. This kind of support to the local level is conceptualised as global improvement, something that makes the local achievements more probable, stable, replicable, etc.



**Figure 7.1 A Synoptic Articulation of Action-oriented Research**

This articulation of action-oriented research seems to encapsulate all the concepts and issues listed above. It seems to depict in a rather uncomplicated way all the key concerns of action-oriented research identified so far in the study. Because of its simple elegance (a judgement made by the author) and its apparent capacity to synthesise the entire range of issues identified in this study so far, it seems worth examining as a basis for building the conceptual framework aimed for in this chapter. *In fact, the articulation of action-oriented research as depicted in the figure above (Figure 7.1) might be considered as a basic conceptual framework for action-oriented research. However, there is a need to clarify it*

*much further and make it more precise so that it can function as an effective guide for the practice of action-oriented research in various domains.*

To proceed in that direction, it seems useful to identify (or develop) some *integrative notions* that can express in a nut shell what is being striven for in the type of activity depicted in the figure above. The integrative notions have to be related to the idea of securing an ‘increasing ability to bring forth new entities’ (see the last paragraph of Chapter 6) that prove to be useful in a practical context. The author’s background knowledge suggested that the notion of *agency*, i.e., the capacity to initiate a process causing something to happen, is used in some fields of study (e.g., sociology) to also refer to a capacity to bring forth new entities (e.g., social structures). It seems promising to examine if the notion of *agency* can function as the required integrative notion for the conceptual framework to be constructed in this chapter.

## **7.2 The Integrative Notion of Agency**

A review of some additional literature will now be undertaken to further develop the integrative notion of *agency* and use it to elaborate the generic ideas pertaining to action-oriented research outlined above (Figure 7.1). Any academic literature directly referring to the notion of *agency* itself or referring to the notion of ‘increasing ability to bring forth new entities’ can be included in this review. A selection will of course have to be made depending upon conditions such as availability, relatedness to the broad field of management studies, etc. An initial selection indicates the following literature:

*Architecture* (Alexander, 1979; Alexander, *et al.*, 1977; Stahl, 1996);  
*Artificial Intelligence and Artificial Societies* (e.g., Brafman and Tennenholtz, 1996; Franklin and Graesser, 1996);  
*Educational Technology* (e.g., Boyd, 1997);  
*Management* (e.g., principal-agent models);  
*Philosophy of Action* (e.g., Bishop, 1989); and  
*Sociology* (e.g., Archer, 1988; 1995; Giddens, 1984; 1993; Parsons, 1964; 1977; 1978).

### **7.2.1 Architecture**

The notion of ‘pattern language’ in architecture seems relevant in the present context (Alexander, 1979; Alexander, *et al.*, 1977; Stahl, 1996). A ‘pattern language’ consisting of 253 ‘patterns’ has been reported in the literature (Alexander, *et al.*, 1977). It includes ‘patterns’ like ‘accessible green’ (pattern 60), ‘light on two sides of every room’ (pattern 159), ‘waist-high shelf’ (pattern 201), ‘front door bench’ (pattern 242), etc. These patterns might be selected and combined in infinite ways to construct or develop built environments such as towns, public spaces, neighbourhoods, houses, gardens, and rooms. The use of this ‘pattern language’ allows people to build (or re-organise) their environments in ways that overcome some of the recurring difficulties associated with built environments. However, the almost infinite possibility of selection and combination, as well as the possibility of unique interpretations of the patterns, ensures that the result of using the ‘pattern language’ can be unique and distinctive in each instance of use.

The language allows a *form of interaction* among people (e.g., between professional architects and their clients, or even among non-architects) such that they might design and develop a built environment (a new ‘reality’ or a *resource*) that combines functionality,

convenience, and beauty. In that sense, it seems to facilitate *local agency*. The language also appears to be potentially transferable thus fulfilling some of the requirements of *global agency* (see Section 7.3 where the notion is introduced). Therefore, at a first glance, the ‘pattern language’ seems to provide a means for *creating and sustaining agency* at both *local* and *global* levels.

However, there seems to be a difficulty with respect to the relationship between the *local* and *global* levels, i.e., with respect to their *coupling* (see Section 5.4, especially Subsection 5.4.3, for an introduction to the notion of *operational coupling*). In the literature pertaining to the ‘pattern language’, there does not seem to be the notion of *operational coupling* between the two levels which could make them exert a constructive and critical influence on each other. According to the developers of the ‘pattern language’, the language represents what they have termed as ‘the timeless way’ (Alexander, 1979). It has been argued that ‘the timeless way’ is related to a ‘central quality which is the root criterion of life and spirit in man, a town, a building, or a wilderness’ (*ibid.*, p. ix). The description tends to constitute the local use of the ‘pattern language’ as having little influence over the language itself. In other words, the *operational coupling*, if any, between each instance of use of the language (local) and the overall development of the language (global) is not specified. This appears to overlook the *improvership role* (see Section 7.1). This aspect seems to have created certain controversies around the ‘pattern language’ (see for example, Stahl, 1996). The controversies seem to be related to the issue of whether the language is to be used by adapting the patterns to personal preferences and the local conditions or whether it is to be used in a rigid and prescriptive way.

The above seems to have yielded two important insights: (i) Something like a *language* might be involved to facilitate a *form of interaction* among and between the two *roles* namely user and producer in order to secure an ‘increasing ability to bring forth new entities’, and (ii) It might be self-defeating from the point of view of securing an ‘increasing ability to bring forth new entities’ to predicate the *form of interaction* on some transcendental (‘timeless’) notion. In other words, it should always be possible to challenge the *authority* of anything (e.g., a ‘language’) even if it seems to secure an ‘increasing ability to bring forth new entities’ at some level.

### 7.2.2 Artificial Intelligence and Artificial Societies

There seems to have been a recent explosion of literature that refers to the notion of ‘agent’ and ‘agency’ in the area of artificial intelligence (AI) and artificial societies (ASoc) (see, for example, Agents Information page at <http://www.cs.bham.ac.uk/~amw/agents/index.html> and The Journal of Artificial Societies and Social Simulation homepage at <http://www.soc.surrey.ac.uk/JASSS/JASSS.html>). A number of international conferences have been organised around the notion of ‘agent’ in this area (see Agent Related Conferences page at [http://gamcho.etri.re.kr/agent\\_conf.html](http://gamcho.etri.re.kr/agent_conf.html)). The journal *Artificial Intelligence* devoted an entire volume in the year 1995 to the topic of ‘agency’ (Volume 72, Special Volume on Computational Research on Interaction and Agency) and the *Journal of Artificial Intelligence Research* (JAIR) has carried many articles on the topic especially in the late 1990s (see JAIR Homepage at <http://www.cs.washington.edu/research/jair/home.html>). The following is a glimpse of the types of notion being discussed in this literature:

### **Types of Agent**

adaptive agent  
agent interpreter  
autonomous agent  
collaborating autonomous agent  
contractor agent  
ideally rational agent  
intelligent agent  
legged agent  
manager agent  
self-motivated agent  
situated agents  
specialised agent

### **Capabilities of Agent**

agent's action  
agent's beliefs  
agent's intention  
agent's knowledge about the world  
agent's learning  
agent's perceptions  
agent's plan  
agent's proposed actions  
agent's reactions  
agent's understanding of instructions  
effects of an agent's proposed actions

### **Design and Control of Agents**

agent architecture  
agent environment  
agent-oriented programming  
agents operating in real-time domains  
agents' resource limits  
automated synthesis of arbitrary specialised agents  
computational theories of agents  
modelling of agents  
properties required by an agent  
state of an agent

### **Group of Agents**

agent society  
agent system  
agents' intentions towards one another  
agents in disagreement about the existence of objects  
agents recognising plans of other agents  
agents' choice in communicative action  
agents' interactions with their environments  
contracts between agents  
effective interaction of agents  
multi-agent systems

The literature seems to display a high degree of specialisation with respect to the notion of 'agent'. However, there does not appear to be a unique *general notion* of agency to which the literature can adhere (although many different notions have been proposed, see Franklin and Graesser, 1996). Researchers in the area seem to recognise this lack of clarity:

Agency is a very fuzzy notion in our field. Sometimes it is used in the sense of game theory, meaning a rational decision maker (artificial or human). Sometimes it can be thought of as an implemented strategy (of some rational decision maker). There are differences between sub-fields, e.g., multi-agent system work is often related to a game-theoretic perspective. In other sub-areas, an agent is usually some program that has the ability to make decisions on the part of the user (although sometimes it only recommends decisions), e.g., an agent for filtering mail and news, and agents for seeking products online.

Finally, it can sometimes be a name given to some semi-autonomous program, e.g., an information seeking agent (such as a program that searches the web for information for you, but does not make any decisions on behalf of its user). These last uses are more prevalent lately, as agent has become a somewhat popular buzz word.

(*Personal communication* received from R. Brafman <brafman@CS.bgu.ac.il> on Sunday, 1 Mar 1998. Brafman's research is in the area of multi-agent systems, see Brafman and Tennenholtz, 1996.)

A number of interesting points might be developed in the light of this literature in AI and ASoc. A start might be made with two different interpretations of the notion of 'agent': (i) 'agent' as a specifically designed machine (or computer programme) for accomplishing certain tasks involving some form of sensing, information processing, reasoning, affecting the environment, interacting with other machines (or programmes), seeking goals, etc., and (ii) 'agency' as an approximation of some characteristics of life. Both interpretations can be found in the AI/ASoc literature (see, e.g., Franklin and Graesser, 1996).

#### *'Agent' as a Machine (or Programme) to Accomplish Some Task*

No doubt, building machines (or programmes) with greater capacity to 'sense', 'reason', 'act', 'learn', 'evolve', 'collaborate', etc., is quite challenging. Besides, many applications of such machines seem to be emerging in different domains. Such a machine (or programme) could be viewed as a *tool* within a *context of support* to be used by the *actors* in that context. However, such a machine might also become an *actor* and begin to play a role (or a set of roles). In either case, there will be a need to develop the appropriate *forms of interaction* (e.g., languages) among the roles (e.g., through specially designed *interfaces*).

#### *'Agency' as an Approximation of Some Characteristics of Life*

In this interpretation 'agency' is taken as an approximation of some characteristics of life, e.g., the ability to sense, reason, act, learn, collaborate, etc. This interpretation is compatible with the following definition of 'autonomous agent': 'An autonomous agent is a system situated within and a part of an environment that senses that environment and acts on it, over time, in pursuit of its own agenda and so as to effect what it senses in the future (Franklin and Graesser, 1996). In situations where 'agency' has to be produced among 'less human' entities (e.g., when the entities do not know how to sense, how to reason, or act, etc.), a well-designed 'agent' might support them provided an appropriate *interface* is available.

This discussion seems to have yielded one important insight: The aim of securing an 'increasing ability to bring forth new entities' might be pursued by designing suitable *tools and interfaces* for *actors* (e.g., people, 'artificial agents', etc.) such that they are able to act effectively as the *producers* and *users* of some *resource*. The task of *improvership* then would be to progressively specify these *tools and interfaces* and improve their power and transferability (thus contributing to *global improvement*).

### **7.2.3 Educational Technology**

K. Lewin had presented the idea that pedagogy could involve a reorganisation of the 'life-space' of a child so as to set in motion a preferred kind of 'circular causal relation between self and environment, *zirkuläre Rück-koppelung*' (Lewin, 1935). A somewhat similar idea is expressed in contemporary educational parlance by referring to 'multi-perspectival learning conversation', 'multivocal discourse', and 'life-long learning'. The contemporary literature on educational technology visualises an Internet-based distance education process that implements such learning conversations between interested people who might act as learners and/or tutors (Boyd, 1997). The possible role of AI agents (called pedagogical agents) in such

educational processes has been the focus of recent deliberations in this area (see the proceedings of an international conference on *Artificial Intelligence in Education*, 1997, at [http://www.contrib.andrew.cmu.edu/~plb/AIED97\\_workshop/Proceedings.html](http://www.contrib.andrew.cmu.edu/~plb/AIED97_workshop/Proceedings.html)).

This literature has identified several tasks for the emerging educational technology: (i) Arranging good matches in the cyberspace to connect learners to appropriate tutors (or resources), (ii) ensuring fair exchange and public recognition for somebody's helpfulness, (iii) providing meaningful interface between learners and web-based intelligent courseware, and (iv) monitoring the quality of the actual learning-conversations.

'Presentation agents' have been visualised that would make web-based educational resources available to learners in an interesting and personalised way and provide feedback on the extent of learning (André, Rist, and Müller, 1997). It has been proposed that technological developments such as AI 'agents', 'webcentric mediation via downloaded applets with "cookie" feedback', and 'virtual currency exchange via public key encryption', can be used together to fulfil the requirements of the type of educational conversations necessary for contemporary distance education (Boyd, 1997).

One feature of the discussions in this area is the characterisation of an 'agent' as something that enables someone (a learner) to *use* some educational *resource* more effectively. The discussion also seems to suggest ways by which the tutors (or authors of the educational resource, i.e., the *producers* of the *resource*) could make their products more usable by a variety of *users*. The web-based educational technologies allow a mutually facilitating interaction among the *users* and the *producers* of a *resource* (i.e., an educational resource); such technologies also constitute a focus for the task of replicating and improving such interaction. These technologies also make it possible to detach the *roles* of learner and tutor from the specific entities (e.g., persons) playing those *roles* at any given instance. This type of detachment creates *mobility* among the *roles*. Such *mobility* allows for a variety of *users* and *producers*, thus increasing the possibility of new *resources* emerging.

The above discussion helps in recognising the importance of designing suitable *tools and interfaces* to help the *producers* of a *resource* make it more usable (for a variety of *users*) and to help the *users* of the *resource* to influence the types of *resource* being produced. This makes the form of interaction between the *producers* and the *users* mutually facilitating. The literature also highlights the importance of ensuring *mobility* across the roles of *producership* and *usership*. In the educational context, such *mobility* would allow forms of interaction in which a learner can become a tutor and *vice versa*, in the process bringing forth new educational *resources*.

#### **7.2.4 Management**

Almost all the sub-areas of management refer to the *production* and *use* of *resources*, and seek to derive general insights that might facilitate the bringing forth of such *resources* in new contexts. Examples of such *resources* would include: customer service infrastructure, management control systems, organisational structure and culture, project teams, quality systems, strategic alliances, 'theory of business', etc. Sometimes, in practice, the *producership* and *usership* of these *resources* are kept separate (perhaps an instance of division of labour) and the *improvership* of the entire process is not paid the required attention. The literature of management, however, provides a number of ideas about effecting a greater interaction among these *roles* and the *resources* in order to improve the functioning

of an organisation. Some of these ideas might be worth reviewing in the present context. The review is divided into the following sub-areas: Finance, Information Systems, Marketing, Organisational Behaviour, and Strategic Management.

### *Finance*

The current literature of financial management seems to have been strongly influenced by developments in the area of financial economics, which deals with the issues of financial decision making by governments, institutions, firms, and individuals; especially with the problems of decision making under 'information asymmetry', 'moral hazard', etc., so as to minimise 'risks', maximise 'returns', and in general pursue economic goals. A series of Nobel Prizes for Economics in this decade has positioned financial economics as an eminent area of research in the economic sciences (see Nobel Prize in Economic Sciences Winners 1996-1999 at <http://www.almaz.com/nobel/economics/economics.html>).

There is a substantial literature in financial management that applies financial economics to the problems of corporate management. A new academic journal started in the year 1998 called the *International Journal of Theoretical and Applied Finance* is testimony to the growing popularity of this area among financial management researchers (see Journal Index at <http://www.wspc.com.sg/journals/journals.html>).

An initial theoretical framework for thinking in this area seems to be that of *decision science*. The corporate financial manager has to make some decision, or design some financial instrument, given some available information and a clear goal (or a set of goals, e.g., optimise risk, return, cost, value, etc.) This type of framework might be compared with that of Operational Research/Management Science (OR/MS) (see Subsection 4.3.1). However, as in OR/MS, difficulties with this framework have also been recognised in financial decision making. Some of the oft reported difficulties are related to the 'problem of agency', i.e., the problem of having to make a financial decision when some of the involved/affected parties might act as if they are 'agents' (or have 'agency'). Various characterisations of this notion of 'agency' have been used, but in general it refers to anything (or anybody) that can act as if pursuing economic/financial goals, i.e., collecting information, deciding trade-offs, engaging in transactions, optimising goals, acting strategically, entering into and defecting from contracts, etc. (This draws upon the well-known 'agency theory' to be discussed later in this section under Strategic Management.) The literature tends to view such 'agency' as a problem, i.e., from the point of view of financial modelling and financial decision making. (This might be compared with how the gradual erosion of governability of social systems is viewed as a problem in certain strands of thinking in social science; see, e.g., Willke, 1990; de Zeeuw, 1986.)

The theoretical recognition of this type of problem can produce (at least) two different directions of research thinking: (i) to look for an effective reduction of such 'agency', e.g., by limiting the range of behaviour of the 'agents', or equivalently, by enhancing the range of behaviour of the managers (e.g., Eisenhardt, 1985), and (ii) to look for an effective enhancement of such 'agency' such that new forms of co-ordination (interaction) are brought forth by the 'agents', e.g., by providing the 'agents' with a *form of interaction* that helps build *stable networks* (see, e.g., Dutta and Mutuswami, 1997).

Clearly, the latter type of research thinking seems more compatible with the generic account of action-oriented research emerging in the present thesis. The literature of financial

management seems to provide examples of how this might be implemented through the design of innovative financial instruments.

### *Information Systems*

The need for giving greater control to the *user* of an information system has been discussed in this sub-area of management. A number of concepts have been developed in the literature of information systems which have this focus, e.g., client-led design methodology, concurrent engineering, contextual design, dynamic models, prototypes, user as a tool-smith, user interface, user language, user-centred approach, etc. This type of focus seems to take a more creative view of the process of production of an information system. It seeks to maximise the potential contributions of various actors to the process. In other words, it explores the more creative options for the *form of interaction* involved in the process of production of an information system.

The development of *interactive environments* within which a given information system might be adapted while in use would be a concrete example of increasing the capacity of the users (or would-be users) to play a more active role in the continuous development of an information system than is usually the case. Such developments have been referred to in the information systems literature (e.g., Baskerville and Stage, 1996). The application of Soft Systems Methodology (SSM) to the design and evaluation of information systems might be considered as another example of enhancing the *producership* and *improvership* of the *users* of information systems (Checkland, Holwell, 1998a; Checkland and Scholes, 1990; also see Subsection 4.3.7).

The literature in this sub-area suggests that the task action-oriented research might be supported through specifically designed methodologies, dynamic models, interactive environments, languages, interfaces, etc. This is similar to the insight derived in Subsections 7.2.2 and 7.2.3 above, where the need for specific *tools and interfaces* was discussed. Since these tools and interfaces are created, used, and developed for the purpose of enabling a set of actors to collaborate in bringing forth a collective resource, these might be termed as devices that introduce an 'increasing ability to bring forth new entities'. In other words, these might be termed as agency-enhancing devices, taking agency to mean the ability to bring forth new entities. A systematic study of such devices would be associated with the role of *improvership* because such a systematic study would be expected to make these devices more reliable and transferable.

### *Marketing*

The notion of *relationship marketing* seems to be receiving increasing academic attention recently (Payne, *et al.*, 1995; Wilson and Wilson, 1996; see The Relationship Manager Software at <http://www.smart-marketing.com/relationship.html>). Relationship marketing is said to be a development over the 'traditional marketing paradigm', i.e., customer-focused marketing (Payne, *et al.*, 1995, pp. 3-4). Relationship marketing seeks to redefine the marketing function by placing an emphasis on building a lasting relationship (often a long term relationship) between the suppliers and the customers.

The 'traditional marketing paradigm' constituted the customer firmly as a potential *user* (or a conduit to a *user*) of a *resource* (i.e., marketing network). However, the relationship marketing 'paradigm' seems to constitute the customer in a different way. The customers as



well as the marketing functionaries are now expected to jointly *produce* (bring forth and maintain) a relationship (a new type of *resource*) of which both the parties might become the *users*. There is also an interest in studying and developing the ways of bringing forth this new *resource* in different environments. The literature also refers to the possibility of *expanding the scope* of the relationship by including other parties such as suppliers, employees, influencers, etc., as well as other functions such as quality, product design, etc. This shift of emphasis might be interpreted as a step in the direction securing an ‘increasing ability to bring forth new entities’.

These concepts in relationship marketing might be reinterpreted in terms of the notion of *agency*. For example, the concept of a ‘customer interface’ (Bitran and Lojo, 1993) might be reinterpreted as a particular *agency-enhancing device* rather than a mere episode in the provision and consumption of a service. The main insight from this literature seems to be the possibility (and the desirability) of the joint-production of *resources* which allow for a variety of *users* and uses. This highlights the importance of the notion of *mobility* mentioned earlier in Subsection 7.2.3.

### *Organisational Behaviour*

The recent literature in organisational behaviour (OB) makes reference to various types of ‘new thinking’, e.g., reflective action, subjective and reflective relationship, symbolic texture of organising, enacting organisational reality, learning, innovation, etc. (Tsoukas, 1994), and the emergence of the ‘new organisation’ (Ezzamel, *et al.*, 1994). (The literature seems to overlap with that of strategic management discussed below.) Some of the key themes in the contemporary literature in this area revolve around the notions of ‘reflective practice’, and ‘organisational learning’, both highlighting the role played by ‘mental models’ of organisational *actors* (Argyris, 1992; 1993; Argyris and Schön, 1996; Schön, 1983; Senge, 1990).

This occasions some reflection about the place of mental models in securing an ‘increasing ability to bring forth new entities’. There can be three distinct categories of (mental) *models* associated with the three distinct *roles*. The OB literature does suggest that individuals playing different roles within the corporate structure are likely to use different mental models. However, the type of specification that might categorise the models into distinct categories does not seem to emerge in this literature. Such specification would be essential in order to develop the required *tools and interfaces* to orchestrate a suitable *form of interaction* among the *roles* such that an ‘increasing ability to bring forth new entities’ is secured.

The OB literature refers to the need for the organisational actors to acquire a degree of flexibility in order to be able to step out from the mental models (e.g., defensive routines) that guide their behaviour and actions. This flexibility is similar to the notion of mobility mentioned above. The literature indicates one way of achieving such mobility: by introducing a degree of detachment between an actor (a role player) and the model (or framework) associated with its role. Tools such as ‘mental maps’ (discussed in the OB literature) might be viewed as producing such a detachment.

### *Strategic Management*

A number of recent developments in strategic management might be reviewed here. For the sake of convenience, the literature in this area has been divided into two groups: (i) the

literature oriented towards the use of analytical models to deal with strategic problems, e.g., the literature using the so-called 'agency theory' to find optimal strategies (e.g., Ackere, 1993), and (ii) the literature focusing on changing, redesigning, and creating more competent organisations/structures. These groups of literature are neither mutually exclusive nor collectively exhaustive.

Despite various reports about the difficulties of using analytical methods to deal with 'messy' strategic problems (e.g., see Subsection 4.3.2), there is still a considerable body of literature following this approach. Of course dealing with strategic problems in this manner does not always involve finding exact solutions, but also involves finding 'satisficing' solutions, devising locally better strategies, drawing out implications of following specific strategic options, etc. A part of this literature has been reviewed in Chapter 4 while reviewing the developments within the area of management systems thinking. Therefore, the review here will be restricted to that part of the literature which refers to the so-called 'agency theory'.

A large number of research papers have been published on 'agency theory' addressing various issues of corporate strategy, policy, governance, decision making, functional strategies, etc. (The ABI/INFORM® GLOBAL database of business and management articles retrieves 218 research papers on 'agency theory' in the period January 1996 - December 1997.) The conceptual framework of 'agency theory' originated in the area of economics which spoke of 'rational economic agents'. Certain strands of economics (e.g., financial economics, transaction cost economics, and institutional economics) developed this notion of a 'rational economic agent' in the 1970s to define an 'agency relationship' as one in which at least two entities were involved: a 'principal' and an 'agent'. The 'principal' appoints (engages, enters into a contract with) an 'agent' to pursue some economic interest where it is possible that there might be a 'conflict of interest', i.e., the 'agent' might act in self-interest (for a recent introduction to the 'principal-agent paradigm' see Ackere, 1993). The 'agency relationship' was found to be quite common in various spheres of economic life. It provided a general vocabulary to express a number of economic phenomena. The paradigm has generated considerable research interest in the 1980s and 1990s and is still being developed (see, for example, Itoh, 1991; Jensen and Meckling, 1976; Sobel, 1993; Taub, 1997; White, 1992).

This vocabulary has been found to be applicable in the domain of corporate management (Ackere, 1993). For example, the relationship between the owners of a corporation and its managers has been expressed as a principal-agent relationship. It has been adopted as a basic analytical framework to interpret many strategic problems in corporations and develop directions for managerial action (e.g., Bergen, *et al.*, 1992; Grover, 1993; Hill and Jones, 1992; Johnson, *et al.*, 1993; Preston, 1998; Sharma, 1997; Wiseman and Gomez-Mejia, 1998). The conceptual basis of this literature seems to be in *decision science*. In most of the applications reported, the overall aim appears to be to reduce the 'opportunistic behaviour' of 'agents', or to reduce the negative effects (costs) thereof, by introducing adequate incentives (or disincentives; e.g., through 'outcome-based contracts') such that the overall benefits outweigh the costs. Some of the limitations of such approaches to strategic management have been pointed out (e.g., the solutions to 'agency problems' are not always effective; the approach overlooks some important aspects of organisational life although it does focus on some others; see Band, 1992).

There have been attempts to use the vocabulary of 'agency theory' to articulate alternative applications of the theory, signifying a possible break with its decision theoretic ancestry.

One of these attempts refers to the possibility of a 'stable network' emerging among a set of interacting 'agents' (Dutta and Mutuswami, 1997). *It is this type of alternative application which comes closer to the notion of action-oriented research emerging in this thesis. However, in order to pursue such a comparison, the notions of production and use of such a 'stable network' and the methods and motivations of a systematic study of such a process would have to be articulated.*

Attention can now be turned to the second concern in the strategic management literature referred to earlier: the literature focusing on changing, redesigning, and creating more competent organisations/structures. This has been a very prolific area of publication in the last two decades and the flow of literature still seems to continue unabated (Ackoff, 1981; Espejo, *et al.*, 1996; Espejo and Schwaninger, 1993; Johnson and Scholes, 1997). This body of literature has produced a rich reserve of ideas pertaining to improving the performance of organisations. Obviously, these ideas are relative to the notion of 'organisation', 'performance', and 'improvement', which are themselves open to various interpretations. Following the specific aims of this chapter, it might be worthwhile to reflect on this literature adopting the interpretation of an organisation as a *resource* which is brought forth by a complex set of interactions. A *resource* like this gets *used* when the organisation delivers its services, the *users* being the customers. From this point of view, it seems that the above-mentioned strategic management literature tends to focus on two broad issues: (i) ways of *co-ordinating the interactions* that *bring forth* the *resource*, and (ii) ways of making this process more and more robust against various *internal and external disturbances*. The literature indicates that both these issues are actually many-faceted and quite complicated. Both can involve the so-called 7-S's (staff, style, structure, skill, system, strategy, and shared values) as well as a myriad other topics. It is not the intention to go into the details of how these two issues have been dealt with in the literature, but to identify some interesting ideas for securing an 'increasing ability to bring forth new entities'.

The literature makes reference to the notion of a stakeholder—anybody (individual, group, organisation, government) who has a stake in the organisation. Therefore, a stakeholder might act as if it is a *user* or *producer* of the organisation, or an *improver* of the whole process of production and use. In order to operationalise this notion, it seems important to specify how a stakeholder might act if it is a *user*, or *producer*, or *improver*. To develop this further, it also seems important to specify how two (or more) stakeholders might interact if they are individually acting out the same or different *roles*. This type of thinking would be necessary if strategic management has to achieve a greater degree of operationalisation of the stakeholder concept and improve such operationalisation through research. The notion of a stakeholder by itself seems too broad and unhelpful in elaborating the general notion of action-oriented research.

The literature refers to the notion of a learning organisation—one that is capable of transforming itself in tune with the changing requirements from inside as well as outside. From the point of view of elaborating the general notion of action-oriented research, the notion of learning seems too broad, as does the notion of stakeholder. On the one hand, the issue of learning is involved in the competence of the *producership* and *usership* of a *resource*—something that might be termed as *local learning*. On the other hand, the issue of learning is also involved in the progressive improvement of the whole process of producing and using a resource—something that might be termed as *global learning*.

The literature provides many ideas about how organisational transformation might be orchestrated. Reference has been made to the notions of democratising strategy, innovative potential, interactive management (see CWA Limited: Interactive Management Consultants at <http://www.cwaltd.com/>), interactive planning and design (see Interact: The Institute for Interactive Management at <http://www.netreach.net/company/interact/index.html>), learning laboratory (see Learning Laboratory Projects at <http://learning.mit.edu/prapro/learnlab.html>), networking, new managerial work, etc. (e.g., Ezzamel, *et al.*, 1994; Perlitz, 1993; Powell, 1992; Prahalad, 1995). These might be interpreted as referring to ways of *managing the interactions* that address the *problem of diversity* which also arises in the practice of action-oriented research. Such a view of the literature of organisational transformation indicates that a suitably developed *vocabulary* might be able to shape and articulate the potential contributions of this literature to the current debates in action research and management systems thinking.

### 7.2.5 Philosophy of Action

The review is limited to identifying some interesting ideas in the philosophical literature to elaborate the generic notion of action-oriented research emerging in this chapter. The history of philosophical reflections on the nature of action and knowledge seems to be quite old. A reference might be made to the Sanskrit text *Bhagavad-Gita*, (or *Gita* in short) which is a part of the epic *Mahabharata*, said to have been written by Badarayana (also known as Vyasa or Vyasadeva) roughly around 350 BC (De, 1996; Discover India page at <http://www.meadev.gov.in/culture/literature/sanskrit.htm>; The Bhagavad-Gita page at [http://www.iskcon.org/sastra/f\\_bg.html](http://www.iskcon.org/sastra/f_bg.html)). Given the numerous volumes of commentary on *Gita* produced and preserved through the centuries, any reference to it here must be limited to merely giving a flavour of some of the notions used in it. The topic will await an elaborate scholarly treatment in future.

*Gita* refers to the seemingly intractable problem of identifying the best course of action within any given practical context. It describes the problem in various ways. It refers to the fallacies of everyday thinking about actions and their results (e.g., Chapter 2 of *Gita*), the categorical distinctions between action and knowledge (e.g., Chapter 3 of *Gita*), and the need for various conceptual, cultural, linguistic, logical, social and other innovations in order to think and act in the practical world without creating too many negative externalities. It also seems to warn the reader against misapplying these innovations (e.g., ‘one who restrains the senses of action but whose mind dwells on sense objects certainly deludes himself and is called a pretender’, Chapter 3, Verse 6 of *Gita*, taken from [http://www.iskcon.org/sastra/f\\_bg.html](http://www.iskcon.org/sastra/f_bg.html)). Without going too deeply into the topic, some interesting notions from *Gita* will be mentioned here as considered relevant in the present context. These notions were found in Chapter 4 of *Gita*: [The square brackets indicate the author’s own alternative translation of the underlined parts.]

There is no work that affects Me; nor do I aspire for the fruits of action. One who understands this truth about Me also does not become entangled in the fruitive reactions of work [by actions] (Verse 14).

One who sees inaction in action, and action in inaction, is intelligent among men, and he is in the transcendental position [well integrated, well-co-ordinated], although [while] engaged in all sorts of activities (Verse 18).

One is understood to be in full knowledge whose every endeavor is devoid of desire for sense gratification [endeavour attains independence from desires and pronouncements]. He is said by sages to be a worker [wise] for whom the reactions of work [actions] have been burned up by the fire of perfect knowledge [knowledge] (Verse 19).

(Taken from The Bhagavad-Gita page at [http://www.iskcon.org/sastra/f\\_bg.html](http://www.iskcon.org/sastra/f_bg.html))

The above verses seem to refer to the possibility of imagining entities (may be of historical, linguistic, logical, social, or some other nature) which are independent of actions, desires, and pronouncements, and the importance of pursuing such entities in order to be able to escape the various entrapments of actions. The verses suggest that a pursuit of such entities does not preclude one from engaging in actions, but requires the employment of intellect and wisdom.

The interest here is to use the above ideas to fertilise the thinking about action-oriented research being developed in this chapter. If action-oriented research could be so conceived that it helps people to pursue action-independent/intention-independent entities while immersed within the world of actions, and if such entities in turn facilitate the co-ordination of action and knowledge, then that would be a contemporary expression of the above ancient wisdom. This occasions a particular interpretation of *agency*. *Accordingly, agency is the effect when people persistently develop and exercise their capacity to separate their actions from the action-independent/intention-independent entities that are nevertheless involved in determining the results of their action.* Among the notions recovered so far in the thesis, that of a *resource* comes close to the idea of such entities. When such *resources* allow a variety of users and producers (and *improvers* of the whole process) then they might be said to be independent of specific actions/intentions/etc.

There is also evidence of considerable philosophical reflection around the notion of action (and agency) in the Western philosophical discourses (Bishop, 1989). The philosophical problems arise because the notions of ‘agency’ in that discourse (e.g., the ‘originative’ capacity to initiate events in a natural universe) does not sit comfortably with the scientific ontology of a natural universe. The notion of ‘action’ is associated with ‘agency’. ‘Action’ is generally taken as the ‘agent’s’ power of control over what occurs. That is why the notion of ‘action’ itself seems like something alien to the ontology of natural science. A philosophical theory of ‘action’ would be successful to the extent it dissolves this alienness. One approach might be to reduce ‘action’ to neuro-physiological states and thus dissolve the ‘problem of natural agency’. But this has been argued to be contrary to intuition, especially when the attribution of moral responsibilities for actions are involved (i.e., when ‘the agent could have done otherwise’). Generally, the thoughts seem to have evolved around specifying ‘possible worlds’ in which what seems like ‘causal determination’ and what seems like ‘natural agency’ can co-exist. In one such ‘possible world’ a certain course of events seems more *reasonable* to some of the entities in the world; and this can be considered as caused by some events (e.g., mental events, external constraints, etc.)

Certain lessons might be derived from such philosophical reflections for elaborating the notion of *agency*. The notion of *agency* need not refer to the so-called ‘originative’ capacity alone. *It can also refer to the overall effect of a proper interaction among various such ‘originative’ capacities (e.g., the capacity to produce a resource, use it, study the process of*

*production and use, etc.) such that the so-called problem of diversity is resolved locally without surrendering the possibility of replicating such achievement in different contexts.*

It is philosophically puzzling to wonder, in what type of ‘possible world’ such *agency* might emerge. It is certainly not a world merely of observable order, but also one that allows combinations of certain kinds and contains entities that find it *reasonable* to initiate some of these (or other) combinations. Further scholarly investigation of these ideas would be necessary to specify such unfamiliar worlds and their relationship with the familiar worlds.

### **7.2.6 Sociological Theory**

The topic of action (and agency) has been studied extensively in sociology and still seems to generate theoretical interest (Archer, 1988; 1995; Giddens, 1984; 1993; Parsons, 1964; 1977; 1978; 1991; Silverman, 1975). It is interesting to briefly trace the development of thinking in this regard in the sociological literature.

One of the early attempts in the scientific study of society considered the organic individual as the basic unit of analysis (the so-called ‘organic’ sociology of M. Weber, see Parsons, 1964, p. 18). Four basic ‘ideal types’ of social actions performed by the individual were identified: actions oriented towards the individual’s own chosen ends (*zweckrational*), actions oriented towards some more absolute end (*wertrational*), affectual actions, and traditional actions (*ibid.*, p. 115). The ‘social’ aspect was conceptualised as ‘mutual orientation of action’ among individuals. The exploration and discovery of certain empirical uniformities in the orientation of social actions (e.g., typical modes of action) were taken to be part of the subject matter of sociological studies (*ibid.*, p. 121).

A later development based on the above work introduced the notion of a ‘system of action’ in order to fully elaborate and improve the above type of theoretical approach (Parsons, 1964; 1977; 1978; 1991). One of the starting points of such improvement was to distinguish between a human individual and a ‘social actor’ (or ‘acting unit’ or ‘acting agent’), where the latter develops from the former through socialisation whereby personality becomes formed. It involves the learning of patterns of relation to others, language, and structured ways of co-ordination (Parsons, 1977; 1978). A ‘system of action’ (or ‘human action system’) was visualised as that which is responsible for producing ‘acting agents’ out of human individuals. The ‘system of action’ was analysed into four distinct components: (i) social system, (ii) cultural system, (iii) personality system, and (iv) behavioural system; and interpenetration among them was also visualised (Parsons, 1977). Each component was thought to contribute to the creation of social actorship. For example, the social system contributes the structural arrangement and the cultural system provides the ‘generalised’ and ‘specialised’ media of interaction. It was felt that the structural arrangements as well as the various media of interaction (and frames of meaning) might have evolved over time through processes of variation and selection in an evolutionary manner (*ibid.*, p. 180).

The above type of contribution to sociological theory raised the question: ‘How far are we creative human actors, actively controlling the conditions of our own lives?’ (Giddens, 1993, p. 718). It also raised scepticism about the evolutionary view of social structures (Giddens, 1984, pp. 263-274). A significant contribution towards resolving the above issues was that of structuration theory (Giddens, 1984, Chapters 1 and 6). The theory postulates that the ‘duality of agency and structure’ creates the structuring of social relationships across time and space. (The term ‘agency’ seems to have been used as equivalent to social actorship. ) The duality

consists in the recognition that: (i) the ‘agents’ (or ‘actors’ or ‘subjects’) initiate actions drawing upon various rules and resources available in the context, while maintaining a continued ‘theoretical understanding’ of the grounds of their actions, no matter how incomplete such understanding might be, and (ii) the ‘agents’ reflexively monitor their own actions, other agents’ actions, and aspects of the physical environment (especially in dealing with the ‘unintended consequences of action’). The consequences of agents’ actions (both intended and unintended) contribute towards the conditions of further acts.

A fundamental argument of structuration theory is that ‘agents’ and ‘structures’ are not two independently given sets of phenomena; ‘... the structural properties of social systems are both medium and outcome of the practices they recursively organize’ (Giddens, 1984, p. 25).

Arguments have emerged that the above type of structuration theory might still be inadequate from the point of view of explaining the stability (‘morphostasis’) and change (‘morphogenesis’) in the forms of social and cultural life (Archer, 1988; 1995). Giddens’ claim that structure and agency are fundamentally inseparable has been disputed by Archer. The possibility of an analytical separability has been argued by Archer based on the observation that ‘structure’ and ‘agency’ are phased over different ‘tracts of time’. Such analytical separation is necessary to specify ‘when there will be “more Voluntarism” or “more Determinism,”’ the argument goes (Archer 1988, p. 86). Archer has introduced three separate analytical notions: ‘human being’, ‘social agent’, and ‘social actor’.

*A more specific notion of ‘agency’ (as distinct from actorship) seems to emerge at this stage in the theoretical developments in sociology.* This appears to support the proposal that the notion of agency might be used as an integrative notion to refer to the process of securing an ‘increasing ability to bring forth new entities’.

The lessons from the sociological literature seem to be the following: *If the human individual is taken as the basic ‘molecule’ of social reality, it requires the attribution of qualities to the human individual which the latter acquires only through socialisation. If a ‘general system of action’ is taken as the basic unit of analysis, it seems to reduce human individuals to the role of passive recipients of instructions emerging from the ‘general system of action’.* *If the two types of approach are combined together (using the notion of duality), then it seems difficult to specify when a human individual would be an active producer of a social reality and when it would be a passive recipient and merely reproduce the order.* From this understanding, it seems quite important to maintain analytical separations pertaining to (referring to) various facets of human social experience and specify these progressively in order to enrich the associated debates. The pursuit of developing a generic conceptual framework for action-oriented research (using the integrative notion of *agency*) might be interpreted as one of articulating worthwhile analytical separations to guide a type of research that involves the securing of an ‘increasing ability to bring forth new entities’.

### **7.3 Recovering Some Basic Insights**

By no means can the above excursion into the various research areas be considered comprehensive. Still the excursion seems to have produced interesting encounters with ideas and concepts which might be harnessed to do what this chapter has set out to do: *to develop a generic conceptual framework to guide action-oriented research.* Much of the chapter so far has focused on identifying a suitable integrative notion to elaborate the basic conceptual

framework already identified in the early part of the chapter (Section 7.1; Figure 7.1). The integrative notion considered for this purpose was that of *agency*. The review of several research areas (Section 7.2) has contributed a number of ideas and concepts to articulate a suitable notion of *agency* and the various issues related to it. The following is a recapitulation of the key ideas and concepts encountered in the review:

### *The Notion of Agency*

The review began by associating the notion of *agency* with the task of securing an ‘increasing ability to bring forth new entities’ (Section 7.1, last paragraph). The review suggested that although the notion of *agency* has been interpreted as referring to some property of humans or social systems (in economics and sociology), a different interpretation highlights the interactive processes that give rise to *agency*. This latter interpretation refers to the special effect of a particular set of activities in a particular type of ‘possible world’.

Philosophically speaking, if a particular type of ‘possible world’ allows entities in it to initiate some combinations which attain a degree of independence from certain other events (or actions) in the world, then the world can be said to allow and sustain *agency*. In such a world, sometimes an occasion may arise when the opportunity available to some entities for producing new combinations is reduced because of the combinations produced by some other entities or even by the earlier combinations produced by themselves. In such a situation the world loses part of its propensity to allow and sustain *agency*. If some type of activity can be devised that succeed in repairing this loss and restoring the original propensity to the world then such type of activity can be likened to securing an ‘increasing ability to bring forth new entities’.

From this perspective, action-oriented research in general might be visualised as a process of *enhancing agency*. This can involve activities at both local and global levels. At the local level, it would involve the task of enabling specific local entities to initiate new combinations that achieve a degree of stability and independence in functioning as a local resource. At the global level, it would involve the task of identifying the general devices, tools, languages, methods, etc., which have the effect of enhancing agency in general.

On the basis of this description, two notions of *agency* might be conceived: *local agency* and *global agency*. *Local agency* refers to the local capacity to bring forth useful resources and produce local improvements through its use. *Global agency* refers to the systematic expansion of the general reserve of the tools, languages, methods, etc., which make it easier to restore *local agency* when it is eroded.

Sociologically speaking, an analytical distinction between two types of social process seems worth maintaining: processes which are determined by the social order (i.e., morphostatic) and those which bring forth new social orders (i.e., morphogenetic). The second type of process has been associated with the notion of *agency* in the recent sociological literature. In the light of what has been mentioned above, the recent sociological thinking encourages the author to take the view that the realm of the social might be conceptualised as a *superimposition of two types of world*: one that does not allow its members to create new combinations and another that does. For the sake of convenience, these might be termed as *agency-discouraging world* and *agency-encouraging world* respectively. It is possible to conceptualise a difficulty when either of the worlds becomes predominant.



On the basis of this conceptualisation, the notion of action-oriented research presented in the paragraphs above can be specified somewhat more precisely. Such research would involve the identification of some elements from the agency-encouraging world and harness them to *produce* useful resources in the agency-discouraging world. Similarly, such research would also involve the identification of some elements from the agency-discouraging world and harness them to *maintain* useful resources in the agency-encouraging world. Evidently, this would involve different types of learning. One type of learning would suggest how to produce and maintain useful resources in specific situations (i.e., local learning) and another type of learning would suggest how to maintain a suitable balance between the two types of social world such that neither is able to dominate the other (i.e., global learning).

To recapitulate, the notion of *agency* can function as an integrative notion to articulate a generic conceptual framework for action-oriented research if it is taken to mean the following: At the local level, agency is the capacity to initiate, produce, and maintain new combinations (i.e., bring forth new resources) which serve some useful purpose in improving practical actions. At the global level, agency refers to increasing the available opportunity for the local entities to produce new combinations despite various disturbances (or obstacles). *In this sense, enhancing agency at both local and global levels can become a generic goal of action-oriented research.* This would involve two types of learning. Local learning would suggest how to produce and maintain useful resources in specific situations and global learning would suggest how to safeguard the ability to bring forth new and useful resources irrespective of the type of world obtained.

### *Local and Global Agency*

The above description of the notion of agency involves the twin notions of local agency and global agency. Viewing action-oriented research in general as a process of enhancing agency, its effects can be visualised at both local and global levels. At the local level, it would have the effect of enabling specific local entities to initiate new combinations that achieve a degree of stability and independence in functioning as a local resource. Accordingly, local agency refers to the local capacity to bring forth useful resources and produce local improvements through its use. At the global level, such research would involve the task of identifying the general devices, tools, languages, methods, etc., which have the effect of enhancing agency in general. Accordingly, global agency refers to the systematic expansion of the general reserve of the tools, languages, methods, etc., which make it easier to restore *local agency* when it is eroded.

### *Local and Global Learning*

These two notion are of course related to the local and global notions of agency described above. These notions can be used to specify the types of learning action-oriented research can be expected to produce in general. Local learning would suggest how to produce and maintain useful resources in specific situations and global learning would suggest how to safeguard the ability to bring forth new and useful resources irrespective of the type of world obtained. When some local learning has been achieved, the evidence would appear in the form of local improvements. Global learning can only be expected from a systematic study of how such local achievements might be made more durable (even in the face of internal and external disturbances), replicable, etc. When some global learning has been achieved, the evidence would appear in the form of global improvements, i.e., an overall increase in the capacity to bring forth new resources when such capacity is eroded due to whatever reason.

### *Form of Interaction*

As the discussion on architecture shows, the creation of high-quality built environments is facilitated through an appropriate *form of interaction* among the various roles involved in the process. It involves the use of a specialised language (i.e., the so-called pattern language in architecture). This highlights the importance of specifying the *form of interaction* among the *roles* involved in the production and use of any *resource*. Based on what has been discussed already, it might be said that the *form of interaction* ought to help in *enhancing agency* at both local and global levels. This implies that it must contribute to the aim of *local improvement* through facilitating the production and use of relevant *resources*; it must also contribute to the aim of *global improvement* by allowing modifications to itself to suit the demands of new and changing contexts.

### *Agency-enhancing Devices*

The review has indicated that the aim of *enhancing agency* can be supported by specifying various *agency-enhancing devices* (i.e., tools, interfaces—an interface could be conceptualised as a designed medium or environment which links the tool to its context of use, methodologies, models, etc.), in order that the three *roles* themselves can be played competently without tying down the role-players to specific *roles*. For example, the literature of educational technology refers to various software *devices* to help the participants in an educational conversation to be more effective *producers* and *users* of educational *resources*. ‘Cognitive mapping’ (Eden, *et al.*, 1979; Rosenhead, 1989) as an *agency-enhancing device* can effect a degree of detachment between the role-players and the *models* they might be using, thus facilitating *mobility*.

Another possible example could be an innovative ‘financial instrument’, that allows some type of risk management in financial dealings when exchanged among the parties involved. The ‘interactive environments’ and ‘dynamic models’ being referred to in the literature of information systems would be other examples of such *devices*. It is clear that the devices have to strengthen each *role* without weakening the others.

The recurrent practice of action-oriented research is expected to produce a library of *agency-enhancing devices* which would amount to a general increase in the capacity to bring forth new resources in challenging circumstances.

### *Models Associated with Roles*

The literature of organisational behaviour indicates that organisational actors draw upon their mental models in order to act and such mental models tend to be associated with the roles the actors are playing. Using this insight, it is possible to state that there could be distinct categories of *model* associated with the three *roles* defined in the basic conceptual framework in Section 7.1 (i.e., the *roles* of *producership*, *usership*, and *improvership*). A *model* would not only have to support a specific *role* but also allow the required communication, interaction, and co-ordination among the *roles* (to avoid the condition that afflicted the legendary ‘tower of Babel’, see under ‘Babel’ in *The Concise Oxford Dictionary*). Such models can be considered as a class of *agency-enhancing devices*.

## 7.4 Vocabulary of Agency

This chapter aimed to derive a generic conceptual framework for action-oriented research based on the academic debates about such research and the practice of such research in different applied domains. A basic conceptual framework was developed and presented in Section 7.1 (Figure 7.1). This basic framework can now be elaborated in terms of the ideas discussed in Section 7.2 and the concepts recovered in Section 7.3. The key concept of agency will be used as a central and integrative notion in the elaborated framework. The notion of *enhancing agency* will be used as a generic aim of action-oriented research. The framework will be termed the *vocabulary of agency*.

Such a vocabulary can be considered as an example of a ‘framework of ideas’. The importance of such frameworks has been highlighted in the literature of management systems thinking (Subsections 4.3.7 and 5.4.2). The need for a generic framework to guide action-oriented research has been articulated by a number of scholars (e.g., Checkland and Holwell, 1998b; Subsection 3.4.3). The particular ‘framework of ideas’, i.e., the *vocabulary of agency*, being presented in this thesis should be viewed as a response to this need.

This section will present a summary of the *vocabulary of agency* as it stands at this point in the thesis. No doubt, it is rather arbitrary to stop the process of reflection here, especially when the process has opened up so many interesting avenues for thinking about action-oriented research. Consequently, what follows should be seen as *work in progress*, therefore revisable in the light of further research and scholarly critique. The *vocabulary of agency* will now be presented in the form of a *linked list* (i.e., a list of items which also indicates which items are linked to which other items).

**Table 7.1 Vocabulary of Agency**

Term	Description (Terms in <b>boldface</b> refer to other entries in the linked list)
Agency	The notion of agency functions as an integrative notion to articulate the present generic conceptual framework for action-oriented research. It does not refer to some innate ability people (or groups of people) might have. It refers to a particular effect that might arise when people (or groups of people, or some other entities) interact in a certain way. Three <b>roles</b> have been identified in the present conceptual framework to specify these interactions. The effect is the emergence of a collective <b>resource</b> which proves useful to those in its environment. In the present context, the notion of agency is used merely as an integrative notion to define a generic aim for action-oriented research. The generic aim is <b>enhancing agency</b> . The notion of agency can be conceptualised at two logical levels: local and global, giving rise to two concepts: <b>local agency</b> and <b>global agency</b> .
Agency-enhancing device	This is the collective label for the <b>models, tools, interfaces, and forms of interaction</b> which allow an entity to play any one or more of the three <b>roles</b> in such a way that enhances agency (see <b>enhancing agency</b> ). Such enhancement of agency can be conceived at the local level (see <b>local agency</b> ) and/or the global level (see <b>global agency</b> ). This is achieved when the device supports a role without necessarily weakening the other roles.

Term	Description (Terms in <b>boldface</b> refer to other entries in the linked list)
Enhancing agency	The present generic conceptual framework characterises the aim of enhancing agency as a generic aim for action-oriented research. In general, it refers to the aim of securing an increasing ability within a context to bring forth a collective <b>resource</b> that serves to improve some practical activities in its vicinity. It is a challenging aim for various reasons. Some environments seem to prevent the bringing forth of such resources (agency-discouraging worlds). Some environments allow it (agency-encouraging worlds), but thereby engender various problems, e.g., <b>problem of diversity</b> , problem of multiple users, problem of stability of the resources brought forth, problem of obstruction from some existing resources, side effects, etc. The aim of enhancing agency needs to be achieved at the local level (see <b>local agency</b> ) as well as the global level (see <b>global agency</b> ) in a mutually benefiting way.
Form of interaction	This is a particular type of <b>agency-enhancing device</b> which facilitates the interaction between any two (or among all three) <b>roles</b> such that the two types of <b>agency</b> are enhanced in an ongoing and mutually benefiting way. Such interaction allows a type of synergy to develop among the three roles such that each is able to contribute to the task of the other two while seeking support from them as well. This might involve special communicational devices (e.g., codes, languages, mechanisms, mediums, protocols, etc.). However, various other forms of interaction might be developed in the future as part of an ongoing effort towards <b>global improvement</b> .
Global agency	Global agency refers to the capacity to increase the available opportunity for the local entities to produce new combinations ( <b>resources</b> ) in various domains despite any disturbances (or obstacles). It involves a systematic growth and development of the collection of <b>agency-enhancing devices</b> . In this sense, it is the capacity to produce <b>global improvements</b> in a programmatic manner. A particular type of research programme will be necessary to accomplish this. The present conceptual framework is meant to be a contribution to establish such a research programme. The notion of global agency is to be distinguished from <b>local agency</b> . (Also see <b>local-global distinction</b> .)
Global improvement	Global improvement refers to the those results of a research programme which demonstrably increase the chances that <b>local agency</b> can be enhanced in various domains. The capacity to achieve such results is associated with the notion of <b>global agency</b> . (Also see <b>local-global distinction</b> .)
Global learning	This refers to a type of learning that translates into <b>global improvements</b> . For example, it can be a learning about why a particular <b>agency-enhancing device</b> fails in a certain situation and what modification will make it more reliable. It is to be distinguished from <b>local learning</b> . (Also see <b>local-global distinction</b> .)
Improvership	Improvership is one of the three <b>roles</b> involved in <b>enhancing agency</b> . It is linked to the ongoing task of studying how/why a <b>local improvement</b> is achieved (or not achieved) in any specific instance and deriving the appropriate learning (i.e., <b>global learning</b> ) from it which contributes to the achievement of <b>global improvement</b> . Various <b>agency-enhancing devices</b> would be necessary to: (i) support and enhance this role, (ii) create a degree of <b>mobility</b> such that the entity playing the role is not strongly entrapped in the role, and (iii) facilitate the required interaction with the other two roles such that the entire process benefits from their contributions too.
Interface	An entity playing a <b>role</b> might require a special <b>interface</b> so that it can use a specific <b>tool</b> effectively. An interface can be considered as an <b>agency-enhancing device</b> .
Local agency	Local agency is the capacity to initiate, produce, and maintain new combinations (i.e., bring forth new <b>resources</b> ) which serve some useful purpose in improving practical actions. In other words, it is the capacity to produce <b>local improvements</b> in a specific domain of action. It is to be distinguished from <b>global agency</b> . (Also see <b>local-global distinction</b> .)

Term	Description (Terms in <b>boldface</b> refer to other entries in the linked list)
Local improvement	Local improvement refers to the locally demonstrable improvements in some domain of action. This is to be judged by some locally appropriate criteria. The issue of whether a local improvement has indeed occurred cannot be decided once for all. Therefore, a continuous assessment of the situation is assigned to the role of <b>improvership</b> . According to the present conceptual framework, local improvements are the result of the use of a <b>resource</b> . The capacity to achieve such results is associated with the notion of <b>local agency</b> . (Also see <b>local-global distinction</b> .)
Local learning	Local learning suggests how to produce and maintain useful resources in specific situations. Such learning should translate into <b>local improvements</b> . It is to be distinguished from <b>global learning</b> . (Also see <b>local-global distinction</b> .)
Local-Global distinction	The distinction between the two logical levels termed as local and global is an integral part of the present generic conceptual framework. It has been introduced to enable a form of language use that will allow both domain-dependent and domain-independent types of statement to play a constructive and critical role within a discourse. Local refers to the domain-dependent type and global refers to the domain-independent type. Their interaction has been conceptualised in terms of an <b>operational coupling</b> . In the present framework, the generic notions of agency, improvement, and learning have been specified in local and global terms. Unlike in the everyday usage (e.g., as in global warming), the global notions do not pertain to the whole earth (or world). These are notions to simply indicate what remains to be achieved through research even after achieving local results.
Mobility	This refers to the switching from one <b>role</b> to another. Certain <b>agency-enhancing devices</b> facilitate mobility by ensuring that the entity playing one role is not strongly or perpetually entrapped in that role. Such mobility can prove to be a source of variation for new forms of <b>resource</b> to emerge.
Model	Each <b>role</b> can be associated with a model which would highlight to the role player whatever is relevant to that role. A model is considered as an <b>agency-enhancing device</b> because it allows an entity to play a role and interact with the other role-playing entities.
Operational coupling	An operational coupling is conceptualised between the local and the global levels (see <b>local-global distinction</b> ). It refers to the requirement that <b>local agency</b> , <b>local improvement</b> , and <b>local learning</b> be operationally related to <b>global agency</b> , <b>global improvement</b> , and <b>global learning</b> respectively. In other words, the local and the global levels are required to influence each other in a constructive and critical manner. This might be referred to as a type of operational closure.
Problem of diversity	A problem of diversity may exist within a context that allows <b>agency</b> (i.e., agency-encouraging world). Because the context allows agency, a diverse set of useful combinations ( <b>resources</b> ) might be possible. This creates the problem of choosing a specific combination and implementing it in that context. The present conceptual framework poses it as an unsolved problem. It might be the case that some combinations are generally preferable to the rest. When such a clear choice does not exist, a choice might be made based on the criterion that it conserves agency at some level.
Producership	Producership is one of the three <b>roles</b> involved in <b>enhancing agency</b> . It refers to the creating, maintaining, or the continuous bringing forth of a <b>resource</b> . Various <b>agency-enhancing devices</b> would be necessary to: (i) support and enhance this role, (ii) create a degree of <b>mobility</b> such that the entity playing the role is not strongly entrapped in the role, and (iii) facilitate the required interaction with the other two roles such that the entire process benefits from their contributions too.

Term	Description (Terms in <b>boldface</b> refer to other entries in the linked list)
Resource	This is a core notion in the conceptual framework being presented here. It refers to the specific combination (e.g., structure, system, shared mental model, network, etc.) produced (see <b>producership</b> ) and used (see <b>usership</b> ) within a domain of action in order to produce a <b>local improvement</b> . However, such resources might not continue to be effective due to various disturbances and changes in the environment. The role of <b>improvership</b> attends to the issue of continuous improvement of a resource, in co-ordination with the other two <b>roles</b> .
Role	This is a core notion in the conceptual framework being presented here. Three roles have been identified: (i) <b>producership</b> , (ii) <b>usership</b> , and (iii) <b>improvership</b> . Each role is associated with one or more <b>models</b> specifically relevant to the role. Entities playing the roles can move among the roles (see <b>mobility</b> ).
Tool	Each <b>role</b> can involve the use of various tools. Some tools can support the playing of a role while some other tools can facilitate a degree of <b>mobility</b> among the roles. An entity playing a role might require a special <b>interface</b> so that it can use a specific tool effectively. A tool can be considered as an <b>agency-enhancing device</b> .
Usership	Usership is one of the three <b>roles</b> . It refers to the using of a <b>resource</b> . The expected result of using a resource is <b>local improvement</b> . Each use might become a source of disturbance for a resource. Too much disturbance of this type can precipitate an instability. Various <b>agency-enhancing devices</b> would be necessary to: (i) support and enhance this role, (ii) create a degree of <b>mobility</b> such that the entity playing the role is not strongly entrapped in the role, and (iii) facilitate the required interaction with the other two roles such that the entire process benefits from their contributions too.
Vocabulary of agency	The expression refers to the generic conceptual framework for action oriented research being presented here. The framework includes the set of inter-related terms being defined and clarified in this Table. The conceptual framework is so named because the notion of <b>agency</b> has been used in it as an integrative notion. According to the framework, <b>enhancing agency</b> is the generic aim of action-oriented research.

## Assessment of the Framework: Part I

### 8.1 Introduction

A generic conceptual framework for action-oriented research termed as the *vocabulary of agency* has been developed in the present study and presented in Chapter 7 (see Table 7.1). The next major stage in the study is to subject this framework to some systematic assessment. As clarified in Chapter 2 (see Subsection 2.2.3), the conceptual framework has to be subjected to two types of assessment procedure. The first type of assessment will seek to demonstrate whether the framework can contribute positively to clarify some of the unresolved issues in the ongoing academic debates about action-oriented research. This kind of assessment has to depend on a critical discussion about the unresolved issues identified in the literature in the light of the new framework, i.e., the *vocabulary of agency*. If the discussion points towards a resolution of these issues then the conceptual framework would have made a clear contribution. If the discussion points towards not a resolution but a reformulation of these issues even then the conceptual framework can be said to have made a contribution provided the reformulation indicates new insights, new domains of inquiry, new tools of inquiry, new research programmes, etc. Such a critical discussion will constitute the subject matter of the current chapter.

As argued in Chapter 2 (see Subsection 2.2.3), the conceptual framework has also to be assessed to demonstrate whether it can contribute positively to enrich the practical activity of action-oriented research. The approach for this second type of assessment will be to undertake what are sometimes called *post mortem* studies. This will include a re-interpretation and critical discussion of some already completed research projects using the *vocabulary of agency*. This is expected to throw new light on the successes and the failures of the projects, identify alternative directions the projects might have taken, reflect on the possible additional contributions the projects could have made, etc. Such *post mortem* studies will constitute the subject matter of the next chapter, i.e., Chapter 9.

The critical discussion in present chapter will be structured in the following way. Section 8.2 will identify the contributions of the *vocabulary of agency* in dealing with the issues currently debated within the family of action research literature. Section 8.3 will identify the contributions of the *vocabulary of agency* in dealing with the issues currently debated within the family of management systems literature. Section 8.4 will summarise the key results of the critical discussion presented in this chapter.

### 8.2 Consequences for Action Research

The current debates in the action research family of literature were summarised in Section 3.4. The debates in that family of literature seem to indicate a dichotomy between two contrasting types of research thinking. On the one hand, there is the so-called ‘normal’ research with its focus on objective knowledge and the associated quality criteria; on the other hand there are the various proposed alternatives to ‘normal’ research, with their focus

on ‘living theory’, ‘local theory’, ‘practical knowledge’, ‘common people’s knowledge’, etc. This dichotomy creates a persistent problem of demarcation since it does not offer a satisfactory model for critical scrutiny, as has been pointed out by many commentators (references can be found in Chapter 3, especially in Subsection 3.4.2). This might be termed as a fundamental difficulty. Various proposals for dealing with this fundamental difficulty have been discussed earlier (in Subsection 3.4.3). A review of these proposals has indicated that the fundamental interest of critical scrutiny remains only partially met, through conceptual innovations like ‘recoverable process’, ‘local improvement’, etc.

It is felt that this difficulty might be usefully reformulated using the *vocabulary of agency*. The research thinking associated with the vocabulary provides a completely different vantage point from which to appreciate the above difficulty. The vocabulary helps in circumventing the dichotomy between ‘objective knowledge’ and notions like ‘practical knowledge’ by focusing on the generic aim of *enhancing agency* through action-oriented research. The vocabulary opens up the possibility of referring to *agency* which might be enhanced at two logical levels: global and local. *Local agency* is demonstrated in the local capacity to accomplish *local improvements* by producing locally useful *resources*. *Global agency* is demonstrated in a general rise of such local capacity in many different domains of action. It might be the case that the *resource* which is produced is dependent on some ‘objective knowledge’, but it might as well be the case that the *resource* is dependent on some ‘practical knowledge’, as it might also be dependent on various other conditions. The critical scrutiny is now directed towards asking whether and how *agency* is being enhanced. Any comprehensive way of assessing that would involve assessing whether and how the three *roles* are being played such that a *resource* is being *produced* and *used*, while also producing *local learning* and *global learning* in an interdependent manner, etc.

This reformulation can be aligned with the third type of thinking concerning the future of action research (see Subsection 3.4.4), which contends that certain basic notions will have to be clarified and new thinking will have to be introduced in order to secure a stimulating future for action research. However, in pursuing this type of thinking, the reformulation seems to throw some new light on the issues being debated in the action research literature. With respect to the goals of action research, the reformulation does not depend solely on notions such as ‘realising better action’, ‘problem solving’, etc. The *vocabulary of agency* articulates two types of improvement, *local improvement* and *global improvement*, in order to specify the added value that might be introduced by action-oriented research. The key evaluative criteria revolve around the question of whether the *local improvement* and the *global improvement* are being achieved in an interdependent manner.

One of the issues concerning the future direction of action research is the problem of demarcation, i.e., the problem of demarcating between action research and any other type of activity. The reformulation being discussed here is based on a particular type of research thinking that might be capable of dealing with some of the questions raised in the literature. For example, the comments by Tripp (1996), Carr (1989), and Checkland (1991) mentioned under Subsection 3.4.2 can now be addressed. Action-oriented research as specified in the *vocabulary of agency* cannot be ‘applied to any practice in which thought and action are related’ (Tripp, 1996). The vocabulary now clarifies ‘what it [action research] is for’ (Carr, 1989); it is for *enhancing agency*, achieving *operational coupling* between the *local* and *global* levels, etc. The conceptual framework articulated through the vocabulary responds to the comment that ‘without such a framework action research can quickly become indistinguishable from mere action’ (Checkland, 1991).



As discussed earlier, action research has been said to be in need of a more adequate model of research utilisation (i.e., the use of research results) than are currently available. The vocabulary suggests a model of research utilisation different from those based on the notions of *application* or even *clinical* notions of practice-theory interaction. In keeping with the more recent ideas in this area, the vocabulary refers to forms of *capacity building* at two different logical levels. At the local level, the collective capacity to improve some practical activities is extended because of the new *resource* brought forth and used in a relevant domain of action. At the global level, the very capacity to bring forth and use such *resources* (and thus producing practical improvements) is itself sought to be extended systematically through a developing library of *agency-enhancing devices*. Additionally, these two forms of capacity building are expected to happen through an interdependent process where both the capacities inform and strengthen each other. The *vocabulary of agency* indicates a model of research utilisation that might address some of the concerns expressed in the literature (see the last but one paragraph of Chapter 3). However, it is realised that there is an academic need to make more transparent the research utilisation model implicit in the vocabulary. This task is best deferred until more experience of applying the framework has been accumulated.

### 8.3 Consequences for Management Systems

Some aspects of the current debates in the management systems family of literature will now be taken up to discuss the consequences of the *vocabulary of agency* in this area. The review of the management systems literature (in Chapter 4) showed that there are many research trends in this area. These trends might be usefully discussed in relation to the *vocabulary of agency*.

One of the trends involves a reconsideration of the nature of systemic models (e.g., the Viable System Model, see Subsection 4.3.4): instead of taking a model as representing some existing reality, it is taken as a useful image of some possible reality, i.e., one that can in principle be brought forth. A form of ‘*linguaging*’ is identified which, when implemented in an appropriate community of actors, is expected to produce an instance of the possible reality indicated by the model. There is evidence of such thinking in the areas of Organisational Cybernetics (Espejo, 1996; Harnden, 1990) and System Dynamics (Senge and Sterman, 1992).

Using the *vocabulary of agency*, such ‘*linguaging*’ might be interpreted as a particular *form of interaction*. As a result, it becomes possible to discuss what such ‘*linguaging*’ might be for. Although the above two areas in management systems thinking seem to concentrate on the notion of learning as a goal for such ‘*linguaging*’, it might be interesting to discuss this in relation to the task of *enhancing agency*. Any such ‘*linguaging*’ has to be demonstrated to be an *agency-enhancing device*. In this interpretation, both *local learning* and *global learning* become relevant.

The vocabulary also makes it possible to ask: Whether a *resource* has been created? Whether *local improvement* has occurred? Whether *global improvement* has occurred? Etc. In the light of the vocabulary it becomes possible to design specific research projects to test the efficacy of any such *form of interaction*. The vocabulary specifies a range of other elements that would be necessary in order to design, implement, and assess such a research project. This type of interpretation would imply that the notion of ‘*learning*’ alone would not be sufficient

to articulate the general and specific results of such research. However, if the notions of ‘self-constructed organisation’ (Espejo, 1996) and ‘learning laboratory’ (Senge and Sterman, 1992) are interpreted as possible forms of *resource* which are *produced* and *used*, then the *vocabulary of agency* itself can be used to specify the issues pertaining to the design and evaluation of research projects built around such notions. Thus it seems, there is scope for elaborating the research thinking and practice in Organisational Cybernetics and System Dynamics using the *vocabulary of agency*.

Another research trend in management systems thinking is the emphasis on a ‘recoverable’ research process, especially in the literature pertaining to Soft Systems Methodology (SSM) (Checkland, 1991; Checkland and Holwell, 1998b). The emphasis on recoverability seems to highlight the requirement that any research thinking ought to maintain a distinction between a specific context of intervention and a more general context. This type of idea has been elaborated in the *vocabulary of agency* using the *local-global distinction* and an *operational coupling* between the two levels. The notion of *operational coupling* strives to specify the nature of the relationship between the local and global levels. Elements expected to be recoverable according to such research thinking are labelled as *agency-enhancing devices*. Various such devices have been referred to in the *vocabulary of agency*, namely *models*, *tools*, *interfaces*, and *forms of interaction*. Thus the vocabulary introduces a number of specific concerns complementing a general concern in the literature.

The emphasis of Soft Operational Research (Soft OR) on ‘problem structuring’ is another perceptible trend in management systems thinking. Clearly, the literature of Soft OR claims some form of *local improvement* through problem structuring. The literature also seems to suggest the possibility of some form of *global improvement*, especially in terms of a progressive expansion and enrichment of problem structuring methods (Rosenhead, 1996). There does not seem to be a conceptual framework in this literature to link the two types of improvement. The *vocabulary of agency* might serve a useful academic purpose here. This would require further reflection about the nature of the *resources* brought forth through the application of Soft OR approaches. The *vocabulary of agency* facilitates additional reflection about the production and use of such *resources*, the emergence of *local agency*, the potential for the emergence of *global agency*, etc. There appears to be an opportunity to elaborate the research thinking and practice in various ‘softer’ versions of management systems thinking, including Soft Systems Methodology and Soft Operational Research, using the *vocabulary of agency*.

One of the concerns expressed in the management systems literature is about ensuring suitable forms of ‘methodological pluralism’ (Flood and Jackson, 1991a; Jackson, 1991; 1997). This issue has been at the core of Critical Systems Thinking (CST) (see Subsection 4.3.9). The notion of ‘methodological pluralism’ mainly refers to the need for maintaining a degree of flexibility in the design and implementation of interventions while using management systems approaches, especially with respect to the ‘frameworks of ideas’ (or ‘research frameworks’, also referred to as ‘paradigms’ in this literature) associated with these approaches. One of the key contributors in this area has envisaged that such pluralism might be secured through a form of ‘conversation’ to ensure that:

No paradigm is allowed to escape unquestioned because it is continually confronted by the alternative rationales offered by other paradigms. How such a conversation between paradigms can best be orchestrated needs further research (Jackson, 1997, p. 6).

The above discussion in the management systems literature emerges mainly due to the recognition of a plurality of research frameworks in this area. This plurality, in principle, allows the systems practitioners (i.e., ‘facilitators of the bringing forth of social systems’) to bring forth different kinds of effects which might be perceived as improvements within a suitably specified community of actors, provided the systems practitioners are able to make an appropriate choice and combination among these frameworks (Jackson, 1993).

The *vocabulary of agency* might be used to give a particular slant to the special type of ‘conversation’ envisaged above. To do that, it would be necessary to imagine that the activity of ‘bringing forth of social systems’ might be facilitated by various activities which might be part of institutionalised practices but not necessarily so. This immediately directs attention to a possible *problem of diversity* especially as different actors (not only the so-called systems practitioners) might be engaged in bringing forth different kinds of ‘social system’ simultaneously within the same domain of action. According to the *vocabulary of agency*, a way to address the problem is to strive towards *local agency* and *global agency* in a mutually interdependent manner. As the vocabulary specifies, this would involve *roles, models, tools, interfaces, forms of interaction, local learning, global learning*, etc. The specific combination(s) of such *models, tools, forms of interaction*, etc., that would alleviate the above *problem of diversity* in a particular context cannot be predicted without subsequent research and scholarly investigation.

In conclusion, it seems a substantial part of the current debates in management systems thinking is oriented towards identifying appropriate *forms of interaction* among specific actors, e.g., organisational members (as in Organisational Cybernetics), systems practitioners (as in Critical Systems Thinking), etc., such that some desirable effect is achieved. Although the literature refers to various types of desirable effect, the *vocabulary of agency* might be used to specify and elaborate one generic type of desirable effect, i.e., that of creating and maintaining *local* and *global agency*. Accordingly, it seems the *vocabulary of agency* might provide a focus for a creative interaction among the various perspectives being currently discussed in management systems thinking.

## 8.4 Key Results

The *vocabulary of agency* seems to contribute to the current debates in action research and management systems thinking by refocusing some of the issues being debated, providing new conceptual tools and criteria, reformulating some core issues, introducing new research concerns, elaborating and extending some of the key ideas, and above all, introducing a possible way to foster a creative interaction among the researchers in these areas. A synopsis of these contributions is presented below.

### *Circumvents the Dichotomy Between ‘Normal’ Research and the Proposed Alternatives*

Such a dichotomy seems to be inherent in the current debates about the nature of action research where notions like ‘objective knowledge’ and ‘practical knowledge’ are presented as two different types of aim for research. This dichotomy seems to be at the root of most of the controversies in action research thinking. The *vocabulary of agency* helps in circumventing the dichotomy between such contrasting aims by focusing on the generic aim of *enhancing agency* through action-oriented research. The generic aim includes the securing of an

increasing capacity to bring forth new combinations (or *resources*) at two logical levels: global and local. *Local agency* is demonstrated in the local capacity to accomplish *local improvements* by producing locally useful *resources*. *Global agency* is demonstrated in a general rise of such local capacity in many different domains of action. It might be the case that the *resource* which is produced is dependent on some ‘objective knowledge’, but it might as well be the case that the *resource* is dependent on some ‘practical knowledge’ at the same time, as it might also be dependent on various other conditions. Such a conceptual position reflects the nature of practice in action-oriented research which involves forms of collaboration between ‘outsiders’ and ‘insiders’ (see Section 6.6).

#### *Introduces New Thinking for the Future of Action Research*

As it has been argued in Chapter 3 (see Subsection 3.4.4), it may be necessary to develop new concepts and criteria in order to secure a stimulating future for action research. The concepts and criteria embodied within the *vocabulary of agency* appear to throw some new light on the core issues being debated in the action research literature. With respect to the goals of action research, the vocabulary does not depend solely on notions such as ‘realising better action’, ‘problem solving’, etc. The *vocabulary of agency* articulates two types of improvement, *local improvement* and *global improvement*, in order to specify the added value that might be introduced by action-oriented research. The key evaluative criteria revolve around the question of whether the *local improvement* and the *global improvement* are being achieved in an interdependent manner. The notion of *agency*, the aim of *enhancing agency*, the *local-global distinction*, and the criterion of *operational coupling* suggest a very specific direction for action-oriented research.

#### *Contributes to the Demarcation Debate*

The problem of demarcating between action research and any other type of activity seems to have demanded the attention of many commentators. The *vocabulary of agency* might be capable of dealing with some of the questions raised by these commentators. For example, the comments by Tripp (1996), Carr (1989), and Checkland (1991) seem to have been addressed. Action-oriented research as specified in the *vocabulary of agency* has a clear aim and involves some clear criteria. Accordingly, the label action-oriented research cannot be ‘applied to any practice in which thought and action are related’ (Tripp, 1996). The vocabulary also clarifies ‘what it [action research] is for’ (Carr, 1989); it is for *enhancing agency*, achieving *operational coupling* between the *local* and *global* levels, etc. The conceptual framework articulated through the vocabulary responds to the comment that ‘without such a framework action research can quickly become indistinguishable from mere action’ (Checkland, 1991).

#### *Suggests a New Model of Research Utilisation Based on Capacity Building*

The *vocabulary of agency* indicates a model of research utilisation that might address some of the concerns expressed in the literature (see the last but one paragraph of Chapter 3). The vocabulary suggests a model of research utilisation different from those based on the notions of *application* or even *clinical* notions of practice-theory interaction. In keeping with the more recent ideas in this area, the vocabulary refers to forms of *capacity building* at two different logical levels. At the local level, the collective capacity to improve upon some is extended because of the new *resource* brought forth and used in a corresponding domain of action. At the global level, the capacity to bring forth and use such *resources* (and thus

producing practical improvements) is itself sought to be extended systematically through a developing body of *agency-enhancing devices*. Besides, these forms of capacity building are expected to happen in an interdependent manner where both the capacities inform and strengthen each other.

#### *Elaborates the Research Thinking in Organisational Cybernetics and System Dynamics*

The contemporary thinking in the areas of Organisational Cybernetics and System Dynamics involves the search for some forms of ‘*linguaging*’ which, when implemented in an appropriate community of actors, is expected to produce an instance of the possible reality with some desirable features (e.g., viability, self-correcting capacity, etc.). The *vocabulary of agency* interprets such ‘*linguaging*’ as a particular *form of interaction*. This makes it possible to discuss the aims, and therefore the requirement specification, of such ‘*linguaging*’. Any such ‘*linguaging*’ has to be demonstrated to be an *agency-enhancing device*. In this interpretation, both *local learning* and *global learning* become relevant. The vocabulary specifies a range of other elements that would be necessary in order to design, implement, and assess such devices through research projects. The long-term effects of such research is also conceptualised in the *vocabulary of agency*.

#### *Elaborates and Complements the Idea of Recoverability*

The notion of *recoverability* discussed in the management systems thinking area demands that there should be a domain of thinking (e.g., pertaining to a ‘*methodology*’) that is somewhat independent of the specific domain of action in which the thinking (or the ‘*methodology*’) is applied. This type of logical requirement for any research thinking has been articulated in the *vocabulary of agency* in terms of a *local-global distinction*. However, additionally, the vocabulary also specifies a particular type of relationship between these two logical levels termed as *operational coupling*. The vocabulary characterises the recoverable elements as *agency-enhancing devices*. Various such devices have been referred to in the vocabulary, namely *models*, *tools*, *interfaces*, and *forms of interaction*. Thus the vocabulary introduces a number of additional concerns complementing the core concern of recoverability.

#### *Identifies Additional Concerns for Soft Operational Research*

The literature of Soft OR claims some form of *local improvement* through *problem structuring*. The literature also seems to suggest the possibility of some form of *global improvement*, especially in terms of a progressive enrichment of problem structuring methods (Rosenhead, 1996). There does not seem to be a conceptual framework in this literature to link both types of improvement. The *vocabulary of agency* might serve a useful purpose here. This would require further reflection about the nature of the *resources* brought forth through the application of Soft OR approaches. The *vocabulary of agency* facilitates additional reflection about the production and use of such *resources*, the emergence of *local agency*, the potential for the emergence of *global agency*, etc.

#### *Articulates Some Research Issues Concerning ‘Methodological Pluralism’*

The notion of ‘*methodological pluralism*’ in the management systems literature emerges mainly due to the recognition of a plurality of notions about systems. This plurality has been related to a plurality of ‘*research paradigms*’ and interpreted as a strength of management

systems thinking although it is said to have created a problem of dealing with this plurality. A type of ‘reflective conversation’ (among the adherents of different ‘research paradigms’) has been envisaged in the literature to address this problem. The *vocabulary of agency* might be used to give a particular slant to the special type of ‘conversation’ envisaged in the literature. To do that, it would be necessary to imagine that the activity of ‘bringing forth of social systems’ might be facilitated by various activities apart from the systematic interventions by systems practitioners. This immediately directs attention to a possible problem especially as different actors might be engaged in bringing forth different kinds of ‘social system’ simultaneously within the same domain of action. According to the research thinking associated with the vocabulary, a way to address the problem is to strive towards *local agency* and *global agency* in a mutually interdependent manner. As the *vocabulary of agency* specifies, this would involve *roles, models, tools, interfaces, forms of interaction, local learning, global learning*, etc. The specific combination(s) of such *models, tools, forms of interaction*, etc., that would alleviate the above problem in a particular domain of action cannot however be predicted without subsequent research and scholarly investigation.

### *Links Action Research and Management Systems Thinking*

The generic conceptual framework for action-oriented research developed in the present study, i.e., the *vocabulary of agency*, seems to bring together the core concerns of action research and management systems thinking in a coherent fashion. The generic aim of *enhancing agency* subsumes the two broad types of interest emerging from action research and management systems thinking respectively: (i) the interest of action research in enabling a set of actors (or practitioners) to improve their collective competence in a certain domain of action by facilitating a suitable type of interaction among them and (ii) the concern of management systems thinking in exploring various formal notions of system and the methods of bringing them forth, as a way of supporting practical actions. The synthesis is achieved by formulating the notion of a *resource* that facilitates the improvement of practical actions when produced and used within a particular domain of action. The generic aim of *enhancing agency* refers to the progressive strengthening of the capacity to bring forth such useful resources in general. This is sought to be achieved by a process of developing and using an ever growing and improving set of *agency-enhancing devices*. General notions of such resources and devices can be found in both action research and management systems thinking. The vocabulary also includes notions of learning, improvement, method, etc., discussed in both the areas. It seems, the *vocabulary of agency* might provide a focus for a creative interaction among the various perspectives being currently discussed in action research and management systems thinking.

## Assessment of the Framework: Part II

### 9.1 Introduction

The previous chapter assessed the merits of the generic conceptual framework developed in Chapter 7 by examining its potential contributions to the current academic debates pertaining to action research and management systems thinking. A different type of assessment of the generic conceptual framework will be undertaken in this chapter. This will involve an examination of whether and how the conceptual framework can contribute to enrich the practical activity of action-oriented research. The approach for this second type of assessment will be to undertake two *post mortem* studies. Each will be a re-interpretation and a critical discussion of a recently published research project in terms of the generic conceptual framework of the *vocabulary of agency*. The projects chosen for this purpose are the following: (i) a project in the area of public health (IIHMR, 1997) and (ii) a project in the area of management of small and medium enterprises (Lundberg and Tell, 1997).

Applied to a practical project, the conceptual framework expressed through the *vocabulary of agency* will raise the following issues: What type of *local improvement* is being sought through what type of *resource*? How is the *resource* sought to be produced and maintained in the face of various internal and external disturbances? How does the use of the resource lead to the desired local improvement? How should any systematic study of the production and use of the resource be done in order to improve both? What *form of interaction* is designed among the *roles of producership, usership, and improvership*? Whether *mobility* among the *roles* exists? What other *agency-enhancing devices* (e.g., *tools, interfaces, and models*) are involved? What forms of *local learning* and *global learning* are achieved and translated into *local* and *global improvements* respectively? How is any *operational coupling* achieved between the local and the global levels? Whether *local agency* and *global agency* can be said to have been enhanced in an inter-dependent manner?

In each of the two *post mortem* studies, the above pointers will be used to explore the design and the implementation of the project. It will be explored whether such reconsideration might produce interesting insights from the projects and suggest potential alternatives for designing and implementing such projects. In the end, a judgement will have to be made about the worth of the *vocabulary of agency* in offering interesting conceptualisations for designing research projects oriented towards achieving some practical improvement.

### 9.2 Analysis of a Research Project in Public Health

#### 9.2.1 The Project Described

This project was conducted by the *Indian Institute of Health Management Research* (IIHMR), Jaipur, India, with a financial support from USAID under the Private Voluntary Organisation for Health (PVOH), Scheme II (IIHMR, 1997; see *Appendix B* for some information about IIHMR). The project was titled: *Improving Health Service Delivery in*

*Villages by Systematic Sharing of Relevant Information Through Networking among Community Organisations, Local Health Providers, and Beneficiaries.* It was conducted in the Rajgarh block of Churu district, in the north-western State of Rajasthan in India. The project will now be described to provide a basis for the subsequent reinterpretation. The description will be based primarily on the IIHMR (1997) report while also drawing upon the various discussions the author has had with Dr. Prasanta Pathak <prasanta@iihmrj.sirnetd.ernet.in>, who was a key member in the project team which also included Dr. Robert Northrup, Mr. Jagjit Singh, and Mr. Rajeev Mohan.

### *Project Objectives*

The project aimed to improve the quality and the effectiveness of the locally available essential child health care services being provided by the Village Health Providers (VHPs), who are not necessarily formally qualified as medical professionals, by making a Private Voluntary Organisation (PVO) play the role of a co-ordinator and catalyst for greater information and knowledge sharing among a number of relevant parties. The PVO considered for this project was the Bhoruka Charitable Trust (BCT), which has been providing health services in the villages of the Rajgarh block, of which 40 were served under the PVOH scheme of USAID.

The above general aim was split into four specific objectives:

- To identify the key private VHPs whom the community normally consults for solving the most common child health problems and assess the utilisation pattern and the quality of the services being provided by them;
- To develop a model of information and knowledge sharing among the various local private VHPs, qualified medical professionals, various community groups, and the relevant community members, with the BCT acting as a co-ordinator and catalyst;
- To test the effectiveness of such a model in improving the quality and the effectiveness of health management by the mothers and the private VHPs; and
- To evaluate the potential of transferring the model of information and knowledge sharing to other villages with different health service facilities and infrastructure.

### *Research Design*

The project was based on a 'research design' that allowed statistical comparisons to be made among three groups of villages, labelled as 'control', 'case', and 'modified case', taking 20 villages in each group. Surveys were planned as part of the design to generate the data required for such comparison. As is always necessary for such comparisons, a number of assumptions were made with respect to the *similarity* of the villages in the three groups on various scores. It was also assumed that the 'spill over effect' from the 'case' group to the other groups would be negligibly low. The design was based on a scheme represented in Table 9.1.



**Table 9.1 Research Design of the IHMR Project (Based on IHMR, 1997)**

Group of Villages	Description of Villages	Proposed Plan of Activities		
		A1	A2	A3
I	20 villages under PVOH-II, taken as 'control'	Base-line survey	No intervention	End-line survey
II	20 villages under PVOH-II, taken as 'case'	Base-line survey	Intervention	End-line survey
III	20 villages served by BCT outside PVOH-II, taken as 'modified case'	Base-line survey	Intervention	End-line survey

As indicated in Table 9.1, the 'control' group of villages had no intervention. The 'case' and 'modified case' villages had an intervention. The interest in distinguishing the 'modified case' group from the 'case' group of villages was to assess whether certain infrastructural facilities available under the PVOH-II scheme in the 'case' group of villages made any significant contribution.

### *Intervention*

The intervention involved two major components: (i) building a capacity within the BCT to enable it to play effectively the role of a co-ordinator and catalyst for greater information and knowledge sharing among a number of relevant parties, and (ii) implementing a model for such information and knowledge sharing.

The first component was taken to be relevant in the light of the fact that the BCT had organised training programmes for some VHPs before without much success, because the one-way mode of imparting education could not generate sufficient interest among the trainees. Various functionaries involved in the BCT seemed to need some exposure to participatory methods of training, conducting meetings, providing services, etc.

This component consisted of the following: acquainting the key BCT staff (i.e., the permanent, daily-waged, and voluntary staff) with the overall project, the research design, the survey design, tools created for data collection, various issues pertaining to interviewing, editing the data, etc.; involving the BCT staff in the surveys; acquainting the BCT staff (as well as the various health workers through whom BCT's health services are provided) with the survey findings; imparting training on the Integrated Management of Childhood Illnesses (IMCI) developed by the WHO and the UNICEF, with particular emphasis on home management; and helping them appreciate the importance of information sharing among the various parties involved in order to improve child health care services.

This component of the intervention provided the opportunity to 'reach some common objectives of mutual interest' among a number of key functionaries (e.g., the permanent, daily-waged, and voluntary staff of BCT, private VHPs, local qualified medical practitioners, members of local voluntary groups, school teachers and non-formal educators, etc.), 'identify the hurdles on the way to reach such objectives', and develop 'strategies of information sharing to overcome the hurdles'.

The second component involved the actual implementation of a *model for information and knowledge sharing* among a number of parties, including various private VHPs, various community groups, qualified medical practitioners, and the so-called beneficiaries, with the BCT acting as a co-ordinator, facilitator, and catalyst. The model was depicted as a network, indicating the actors at the nodes and the required information and knowledge sharing as bi-directional arcs.

The rationale for such a model was derived from the need for improving the co-ordinated functioning of the various parties mentioned above, because they commanded different types of resources and enjoyed different types of access which needed to be pooled together. While the qualified medical practitioners had the necessary medical training, it was the various private VHPs who had a greater access to the community members. If at all people sought any health service, it was more likely that they would approach some private VHP. The various community groups enjoyed different kinds of access and wielded different kinds of influence over the rest of the community.

This component of the intervention involved a series of participatory workshops consisting of the following steps: target setting (deciding the information state to be achieved within the given time frame), current state assessment (assessing the current information state and therefore the gap to be bridged), interactive information sharing (through dialogue among the participating parties, facilitated by a resource person), behavioural contracting (signing a 'social contract' describing the minimum attainable behavioural changes that the signatories commit to achieve within the given time frame), and monitoring and feedback (on the agreed behavioural changes); the steps constituted the so-called 'SEASHCOMOF methodology'.

The initiative did not generate sufficient enthusiasm among the various community groups. The workshop sessions, conducted over a period of 8 months, were attended by the BCT staff, qualified medical practitioners, and various private VHPs. A significant group among the VHPs, i.e., the rural medical practitioners (RMPs), also referred to as 'quacks', could not participate properly in the last 2 months of the intervention because of a 'sudden government action' curbing their practice. The so-called interactive information sharing was structured using the idiom of 'disease management' as used in the medical profession. Group exercises and discussions were also used. 'Each session ended up with answers to various queries.'

Certain tools (e.g., 'report format', 'process indicator schedule', etc.) were developed to observe whether the information sharing sessions were having any effect in the communication with the mothers and in the actual delivery of health services. The filled up formats and schedules were discussed in the later sessions. This and the 'behavioural contract' together were expected to produce the required accountability on the part of the service providers. The contract specified 'certain minimum scientific standards' to be followed during service delivery. An attempt was made to get the *panchayat* leaders (elected leaders of the local government at the level of *panchayats*, i.e., village clusters) involved in the implementation and monitoring of the above contract. However, they did not display sufficient interest in doing this.

### *Project Outcomes and Conclusions*

The 'research design' allowed various comparisons among the 'control', 'case', and 'modified case' groups of villages, using pre-intervention and post-intervention survey data. The results of some of these comparisons have been presented below.

In some disease categories, there was a perceptible rise in the percentage of cases of child health problems which were being brought to the ‘allopathic’ VHPs, irrespective of whether they were ‘trained’ through the information sharing sessions or not. This was associated with a fall in the percentage of cases being brought to the ‘other’ VHPs, especially if they had not been ‘trained’ through the sessions. This outcome was interpreted in the report as a ‘good change in favour of achieving quality in child health care’.

There was some evidence (although not strong) of the fact that the mothers were able to report more symptoms of child diseases in the post-intervention period. However, this additional awareness did not always translate into better child care practice, e.g., breast-feeding during child illness declined in the post-intervention period in the ‘case’ and ‘modified’ case areas. This was described as a counterproductive outcome of emphasising the use of boiled water for cooking and drinking during child illness in the information sharing sessions.

The intervention seemed to increase the extent of the desirable home care for some childhood illnesses and reduce the use of unprescribed allopathic medicines. However, the use of traditional medicines ‘went up significantly’ in the control villages—a change that remained unexplained.

No significant change was observed in the health care seeking behaviour following the intervention. Several reasons were attributed to it: preference for home care, non-seriousness of cases, financial difficulty, shortage of time, and the lack of easy access.

With respect to the actual change in the practice of the VHPs, the data suggested that the intervention possibly resulted in a greater conformance with the IMCI procedures, especially among the ‘trained’ VHPs. However, in this regard, the VHPs’ accounts did not always match with the mothers’ accounts. The VHPs tended to claim more than what the mothers reported.

Any positive changes in the ‘control’ group of villages were attributed to the possible diffusion of information from the other two groups. Likewise, any positive changes in the practice of the ‘untrained’ VHPs was attributed to the possible diffusion of information from the ‘trained’ VHPs. However, it could not be so attributed where the ‘untrained’ VHPs seemed to outperform the ‘trained’ ones. Occasionally, it was also argued that a seemingly low performance of the ‘trained’ VHPs might indicate a defect of measurement (an over-estimation) in the pre-intervention survey.

#### *A Note on the Terminology of the Project*

Although the project was characterised as an instance of ‘operations research’ (OR), it was clearly different from the ‘hard’ and ‘soft’ varieties of OR reviewed earlier in this thesis (see Chapter 4). The project did not aim at identifying an optimal state of a given operation as a ‘hard’ OR project might do; nor did the project aim at ‘problem structuring’ as a ‘soft’ OR project might do. This indicates that a proper appreciation of the project is incumbent upon identifying a suitable research vocabulary (different from that of OR) in relation to which a fruitful reflection about the project might be conducted. This seems to permit a reconsideration of the project in terms of the *vocabulary of agency*.

However, any reconsideration of the project has to involve extensive interpretation of the terms used in the project report with an effort to fit them together within a coherent frame. The project has been characterised as a ‘concrete example of a developmental effort through research’. This appears to be in need of some interpretation, especially as various ways of bringing together development and research might be conceived. The report does not seem to adhere to any precise and pre-specified notion of ‘developmental effort through research’. It has been claimed that the project created many opportunities for the co-ordinating PVO (i.e., the BCT) to develop its institutional capacities in general. Elsewhere, the report has reflected on the various difficulties in communicating the ‘scientific home management procedures’ to the mothers who sought health care services. The report also suggests that the project enhanced the capability of some of the VHPs to deal with child health cases in a more ‘scientific’ manner. The project outcomes have been presented in terms of ‘health care seeking behaviour’, ‘child care practice’, etc. These indicate a degree of variation in the notion of ‘developmental effort through research’ used in the project.

However, given the basic formulation of the project (as evidenced in the project objectives), it seems possible to construct an interpretative context using the *vocabulary of agency*. Accordingly, the project can be said to have visualised a problem of achieving some *local improvement* by bringing forth a special type of *resource*, initially a **network** for information and knowledge sharing among the various actors relevant within the context of child health in the project area. The report does not seem to adequately explicate why such a network has not emerged in the natural course of events earlier and what difficulties might arise in trying to build and maintain such a network. Although the creation of a ‘model for information and knowledge sharing’ was considered a worthwhile effort towards achieving the desired improvements, the project tended to acquire a different hue during its course. Perhaps because the emphasis on creating the network itself was not adequate, the focus of the project drifted more and more towards a proper ‘training’ of the VHPs in the ‘necessary scientific knowledge’. It might be argued that this drift might have been avoided had a suitable way of thinking about the nature of the task been available at the time of conceptualising the project. The conceptual framework expressed in the *vocabulary of agency* might provide the required guidance for this purpose. It would emphasise the issues surrounding the production of the network, its use in achieving the desired improvements, *local learning*, *global learning*, *operational coupling*, etc.

### 9.2.2 Reinterpreting the Project

An attempt will now be made to reflect on the possible shape the project would have acquired had the *vocabulary of agency* been applied to its design. According to this conceptual framework, the aim of *enhancing agency* would constitute the broad aim for the entire project. The aim would involve increasing the local capacity to bring forth the desired type of information network within the multiple-actor context of child health care in the project area.

Although the project had conceptualised a ‘model for information and knowledge sharing’ among the various actors, in operational terms the project took the direction of *reducing the variability* among the actors (by seeking to promote common understanding, common objectives, scientific standards, methods of monitoring and control, etc.). Based on the evidence from the report, it is possible to conclude that this direction (of reducing the variability) makes strong demands on the various actors which they are not always able to fulfil. For example, the attempts to monitor the behaviour of various actors through ‘report formats’ and ‘process indicator schedules’ proved to be difficult. It has been argued in the

report that some ‘more long term intervention’ might be necessary, although it has also been reported that such long term intervention might not be feasible given the limited financial support of USAID. Although the project required the involvement of several groups of actors in the process of creation of the common objectives, adoption of common standards, etc., it had to contend with the issue of low involvement of the RMPs (i.e., the ‘quacks’), certain individuals, and various community groups. An appeal for greater amount of resources has been made in the report in order to support a more long term effort to achieve and sustain a process of quality improvement in health care services:

A more long duration project of similar nature, if initiated by the government, might be able to overcome this hurdle, making effective information sharing possible through networking among all stakeholders (IIHMR, 1997, p. 90).

As part of the reinterpretation here, it can be said that the direction taken by the project, that of reducing the variability among the actors, sometimes turns out to be quite difficult to accomplish without substantial financial and material investment. As a possible response to this difficulty, the *vocabulary of agency* points in another direction: the direction of supporting the local actors such that a *resource* is produced and used in order to achieve *local improvements*. Such a direction will be explored in the following paragraphs. It cannot be argued to be inherently superior to the former direction in any absolute sense. However, it does seem to reveal alternative issues and opportunities.

The following issues can be raised using the *vocabulary of agency* (borrowed from Section 9.1):

- What type of *local improvement* is being sought through what type of *resource*?
- How is the *resource* sought to be produced and maintained in the face of various internal and external disturbances?
- How does the use of the resource lead to the desired local improvement?
- How should any systematic study of the production and use of the resource be done in order to improve both?
- What *form of interaction* is designed among the *roles* of *producership*, *usership*, and *improvership*?
- Whether *mobility* among the *roles* exists?
- What other *agency-enhancing devices* (e.g., *tools*, *interfaces*, and *models*) are involved?
- What forms of *local learning* and *global learning* are achieved and translated into *local improvements* and *global improvements* respectively?
- How is any *operational coupling* achieved between the local and the global levels?
- Whether *local agency* and *global agency* can be said to have been enhanced in an inter-dependent manner?

In the *vocabulary of agency*, a *problem of diversity* is said to exist within a context which, although generally allows some entities in it to bring forth certain new and useful *resources* (e.g., structures, systems, shared mental models, practices, etc.), makes the actual bringing forth of a new *resource* quite difficult as it is hindered by the simultaneous effort of too many such entities trying to materialise alternative combinations. Although the conceptual framework developed in this thesis poses this as an unsolved problem, it interprets the problem as having the effect of attenuating *agency*. Therefore the generic aim of *enhancing*

*agency* provides a direction for dealing with such a problem. In other words, the framework suggests that the *problem of diversity* might be addressed by finding ways of supporting specific entities such that they are able to produce a useful *resource* notwithstanding the prevailing obstacles (thus securing *local agency*) and ensuring that the process also contributes to a rise in the general capacity to achieve this when similar obstacles prevail (thus securing *global agency*). It is to be noted that the same research direction also applies to a context that generally prevents some entities in it to bring forth any new and useful *resource* in the first place.

In the context of health care as depicted in the IIHMR report, clearly a number of individuals, groups, organisations, and communities are involved in the bringing forth and use of many different kinds of *resource* (not all related to health care alone). In that context, the attempt to create yet another *resource* (i.e., the proposed network for information and knowledge sharing) has to take into account the possibilities for doing so and the obstacles that might arise. In the absence of complete knowledge about these possibilities and the obstacles, a project has to start with a working hypothesis. The ‘model for information and knowledge sharing’ contemplated in the IIHMR project might be taken as one such working hypothesis. Accordingly, the project could explore whether a ‘model for information and knowledge sharing’ (which might be viewed as a *form of interaction* and thus belonging to the broad category of *agency-enhancing device*) helps in *enhancing agency*, i.e., the local and the general capacity to produce a new and useful *resource*. However, to derive sufficiently rich learning from the project, it would be necessary to specify the ‘model’ in sufficient detail. It would be worthwhile to specify whether it would involve a specialised language or code or set of rules; whether it would need to be integrated with some *tools* and *interfaces*; whether it would allow fully open access and accept all kinds of ‘information and knowledge’; whether it would have a memory; whether it would allow changes to itself; whether it would be resistant to certain forms of misuse; etc.

The next stage in re-conceptualising the project would be to focus on developing the design of the chosen *form of interaction* such that some specific features might be built into it. This would require another working hypothesis about the type of *resource* which is expected to appear (or re-appear) as a result. Although there is no way (yet) to predict what this *resource* would be, a project would need a working hypothesis in this regards. The type of *resource* initially chosen by the IIHMR study, i.e., the network, could function as a working hypothesis.

A closer examination of the project report seems to allow a degree of variation in conceptualising the type of *resource* to be produced or developed through the project. Although in the beginning the emphasis seems to have been on the development of a network, the project appears to have veered towards strengthening the VHPs’ practice during the implementation stage. Following the spirit of the reinterpretation being developed here there can be alternative ways to characterise this. The proposed network might still be the main *resource* to be produced and the improvement in the VHPs’ practice might be visualised as a consequence (*local improvement*) arising out of the *use* of the network. However, it is also possible to visualise the VHPs’ practice as the main *resource* to be produced (despite the initial emphasis on creating a network) and the resulting improvement in the health services as a consequence (*local improvement*) arising out of the *use* of the VHP’s practice by the members of the community. The *vocabulary of agency* would suggest that the entire conceptualisation and planning of the project will depend on the type of *resource* visualised in the beginning.

### *Type of Resource*

The IIMR project was titled: *Improving Health Service Delivery in Villages by Systematic Sharing of Relevant Information Through Networking among Community Organisations, Local Health Providers, and Beneficiaries* (see Subsection 9.2.1). This conceptualisation focuses on creating and developing the network. However, based on what has been discussed above, an alternative conceptualisation for the project might have focused on strengthening the VHPs' practice instead. In that case an alternative title for the project might have been the following: *Improving the Quality of Health Service in Villages by Strengthening the Practice of the Village Health Providers (VHPs)*. According to the *vocabulary of agency*, these two alternative directions would constitute two fundamentally different conceptualisations for the project as they are based on two different genres of *resource*.

An examination of the project report indicates that the distinction made above was not involved in the initial conceptualisation of the project. This might have contributed to a shift of focus from networking to training during the project as described in the paragraph titled *A Note on the Terminology of the Project* under Subsection 9.2.1 above.

The course of the project would naturally be dependent on the direction chosen at the beginning. Even if the information sharing sessions are to be taken as the main part of the intervention programme, their aim, design, contents, criteria for evaluation, etc., would depend on the basic direction of the project. If the project focused on networking, the sessions would have to produce enduring interactions among the actors identified in the beginning such that the network can be brought forth and maintained despite various disturbances. However, if the project focused on the VHPs' practice, the sessions would have to focus on how this practice is being produced, how it is being used by a variety of user groups, and how the production and the use can both be improved systematically.

No matter which *resource* is chosen as the main focus of a project, the project planner needs to be aware of the other *resources* in the environment within which the new (or developed) *resource* will be brought forth. The processes of production, use, and improvement of these other *resources* can help or hinder the processes of production, use, and improvement of the chosen type of *resource*. For example, the VHPs' practice might not constitute the only health care *resource* available in the villages. Various other social networks and practices might also function as *resources* in this regard. The more the users depend on these social networks and practices, the less they would use the VHPs' practice which, in turn, can make it difficult for the VHPs to maintain their practice. In order to identify the various village health *resources* in their variety and complexity, some in-depth (so-called qualitative) studies might be necessary. People familiar with the mode of community life in the target villages could be involved in order to develop a reliable picture of the existing *resources* that serve to satisfy the child health care needs.

### *Studying Producership*

Irrespective of the genre of the *resource* chosen as the focus of a project, it would often be necessary to study the process of its production. That would involve a systematic study of the relevant actors engaged (or to be engaged) in its production and the various obstacles facing the production process. If the practice of the VHPs is taken as the *resource* to study, then the question of how this practice emerges, what role the VHPs themselves and any other

entities/actors play in the continued bringing forth of the practice, how the identity, knowledge-base, organisation, membership, skills, and values, etc., associated with the practice emerge and are sustained become important to study in this context. If the proposed network becomes the focal *resource*, then the question of how the network will be produced and maintained, whether it will be stable under various alternative types of use (and misuse), what concrete form it would take, etc., become important to study.

If the scope of the project permits, it should be beneficial to study the production of the other health care *resources* (e.g., social networks, traditional health practices, etc.) available in the villages. A closer study of how these various *resources* are brought forth in a community could provide a lot of insight about the production of the chosen *resource*.

### *Studying Usership*

The project design has to ensure that the *resource* produced (or strengthened) within the project actually brings about *local improvements* when used by the relevant actors. This would require an in-depth study of the conditions of use of the chosen type of *resource* as well as some other relevant (competing or complementing) *resources* in the vicinity. The *role* of *usership* needs to be supported with respect to access to the *resource*, opportunity to use, and ability to use, not overlooking the requirement of *mobility*. The last requirement implies that any user might contribute to the production of the *resource* and also to improvement of both production and use.

There might be alternative ways to visualise the use of a *resource* which is in the form of a network. A network might be required to have certain characteristics depending upon the type of use (and hence the type of *local improvement*) expected of it. In Chapter 6, instances of ‘survival network’, ‘knowledge network’, ‘research network’, ‘network for creative interaction and dialogue’, etc., were discussed. An adequate clarity about the use(s) of a *resource* can inform its design, construction, and improvement processes.

### *Studying Improvership*

A number of practical difficulties can plague the production and use of any *resource* and hinder the achievement of the desired *local improvement*. Besides, a number of new issues might arise as the context keeps changing. It is the task of the *improvership* role to address these difficulties and issues such that not only the *local improvement* is continuously achieved but also the experience of doing so contributes to *global improvement* in some way, e.g., by producing generic insights about how such difficulties and issues might be addressed when they arise in some different domain.

One of the key tasks of the *improvership* role is to design (or re-design) the *form of interaction* among the three *roles* such that *agency* is enhanced at the *local* and *global* levels. This implies that the task of *improvership* also includes ensuring that the *form of interaction* among the three *roles* and the various *models*, *tools*, and *interfaces* associated with them do not prevent the role players from switching their roles and getting engaged in the production and use of a different *resource* when the need for this arises. The role-playing entities should not get inflexibly attached to the roles they are playing; nor should they lose their capacity of stepping back from these roles and assuming some others when the need arises. The notion of *mobility* highlights this requirement. The presence of such *mobility* also ensures that the processes of production, use, and systematic improvement of the *resource* benefit from the



contributions of any specific actor thus preventing the *resource* from becoming ineffective or obsolete in course of time. In practice, this might be a difficult challenge to meet. Considerable creative thinking and innovation must be awaited in the future to meet this challenge.

### *Designing a Form of Interaction*

Viewing the ‘model for information and knowledge sharing’ visualised in the project as a *form of interaction* that supports the *roles* of *producership* and the *usership* of the *resource*, it now becomes possible to specify a number of characteristics the ‘model’ must have. First, the ‘model’ should allow a fruitful interaction between the potential producers and the potential users of the chosen *resource*. While doing this, the ‘model’ should ensure that the required type of *resource* is indeed being brought forth and being used to realise the desired *local improvement*. The ‘model’ should achieve all these without strongly entrapping the role players in the process.

Practically speaking, the role-playing entities should be able to convey to each other what they need to, through some code, device, game, language, signal, etc. It is not possible to declare *a priori* what sort of code or device will have what sort of effect unless the interaction is robust against various internal and external disturbances. An example of such a code can be found in the area of public services where a reference has been made to the use of ‘vouchers’ as a possible *form of interaction* (see, Nursery Education Voucher Scheme <http://www.open.gov.uk/dfee/nursery/guide/concept.htm>). Research projects like the one being discussed here provide opportunities for experimenting with the available communicational (or interactional) devices or even innovating new ones. Results of such innovation and experimentation, when properly specified, can contribute to a systematic process of learning relating to this type of research that strives to *enhance agency*.

### *Results of General Interest*

Any such project as the one being discussed here ought to identify issues and elements of more general interest, in order to retain a family resemblance with research. The *vocabulary of agency* makes it possible to develop and harness such elements in terms of various *agency-enhancing devices*. These include the particular *form of interaction*, *tools*, *interfaces*, etc., used in the project to support the three key *roles*. It would be a long term goal to recognise the more effective *agency-enhancing devices* which afford much greater manoeuvrability and wider options to those afflicted by a situation of attenuating *agency*.

#### **9.2.3 General Outcomes**

The reinterpretation developed in Subsection 9.2.2 has produced the following general outcomes.

#### *Detection of a Shift of Focus*

The reinterpretation indicates that the basic focus of the project had shifted during its implementation. Although the initial focus was on producing a network for information and knowledge sharing among some community organisations, the local health providers, and the beneficiaries, the focus of the project drifted more and more towards a proper ‘training’ of the Village Health Providers (VHPs) in the ‘necessary scientific knowledge’. In terms of the

conceptual framework being assessed here, the notion of *resource* was not quite clarified in the initial conceptualisation of the project.

### *Identification of Alternative Research Directions*

The reinterpretation makes it clear that the project had taken the direction of *reducing the variability* among the actors (by seeking to promote common understanding, common objectives, scientific standards, methods of monitoring and control, etc.). This appears to be an application of the traditional research thinking (which seeks to reduce the variability among observers) within a domain of *action*. It was found in the project that this research direction (of reducing the variability among actors) proved to be quite difficult to pursue, although it did produce some desirable effects as well as some undesirable ones. *The reinterpretation suggests that an alternative research direction might be possible in which a degree of variability among the actors can be accepted as long as their interaction has the effect of producing a useful resource within a context.* Of course this makes it necessary to carefully identify the *roles* to be played, design an appropriate *form of interaction* among them, support the *roles* through *models*, tools, and *interfaces*, and ensure *mobility*, i.e., ensure that the role-playing entities/actors are not entrapped by the *roles*. This is the broad research direction the generic conceptual framework identifies. Several specific directions can emerge within this broad direction depending upon the *resource* chosen to be brought forth (or augmented), the *roles* to be supported, etc.

### *Identification of Additional Areas of Study*

The reinterpretation identifies a number of additional areas of study that could contribute to the overall objectives of the project. Before undertaking to produce a new *resource* or improving an existing *resource* within a context it might be useful to study why this has not happened in the natural course of events. If there are strong deterrents in the vicinity then the task of producing or improving a *resource* becomes more challenging. Furthermore, it might be useful to study the environment in order to identify the range of disturbances (from inside and outside) that the new or improved *resource* has to withstand. This includes the identification of the alternative forms of use (and misuse) to which the *resource* might be put. Studies might also be necessary to identify the appropriate mechanisms to support the three *roles* of *producership*, *usership*, and *improvership*. The generic conceptual framework also suggests that such projects need to be evaluated in order to assess whether *local* and *global learning* are happening and leading to *local* and *global improvement* in an interdependent manner. This of course requires a long term focus beyond a single project in a single domain.

### *Introduction of Additional Criteria for Designing the Intervention*

The ‘model for information and knowledge sharing’ visualised in the project is reinterpreted as a *form of interaction* that supports the *roles* of *producership* and *usership* of the *resource*. Such a reinterpretation makes it possible to specify a number of characteristics the ‘model’ must have. The *form of interaction* should allow a fruitful interaction between the potential producers and the potential users of the chosen *resource*. While doing this, the *form of interaction* should ensure that the required type of *resource* is indeed being brought forth and being used to realise the desired *local improvement*. The ‘model’ should achieve these without strongly entrapping the role players in the process. It should also be possible to recover certain elements from the *form of interaction* that can be applied in a different

context thus contributing to *global improvement*. In order to ensure *operational coupling*, the *form of interaction* should be based on earlier projects in similar or even dissimilar domains.

### *Clarification of Opportunities for Innovation*

The generic conceptual framework leaves open a number of issues and difficulties as either yet unsolved or open to further experimentation and innovation. For example, it requires some creativity to identify the type of *resource* that would help achieve the desired *local improvement*. Even if a network is sought to be produced, there is still the option of choosing a specific type of network (e.g., ‘survival network’ or ‘knowledge network’). This is related to the specific use and *local improvement* expected out of the network. Furthermore, a great deal of innovation is required to identify the appropriate *form of interaction* among the three *roles*, designing the various *models*, *tools*, and *interfaces* associated with them, and ensuring a degree of *mobility*. The overall design should prevent the *resource* from becoming ineffective or obsolete too quickly. More specifically, there is the opportunity to experiment with the available communicational (or interactional) devices, e.g., codes, rules, ‘vouchers’, etc., or even innovate new ones. Results of such innovation and experimentation, when properly specified, can contribute to a systematic process of learning relating to this type of research that strives to *enhance agency*.

### *Characterisation of Possible Results of General Interest*

The reinterpretation also identifies areas where some results of more general interest might be produced. These results will pertain to *agency-enhancing devices*. These include the particular *form of interaction*, *tools*, *interfaces*, etc., used in the project to support the three key *roles* and achieve the desired practical improvements. Such results might be relevant for action-oriented research in general irrespective of the particular context or domain in which it happens as long as the broad objective of *enhancing agency* remains meaningful.

## **9.3 Analysis of a Research Project on SME Networking**

### ***9.3.1 The Project Described***

This project was conducted by two researchers, Max Lundberg <Max.Lundberg@cau.hh.se> and Joakim Tell <Joakim.Tell@cau.hh.se>, from the *Centre for Working Life Research and Development* (CAU) at Halmstad University, Sweden, during the years 1993-1996 (Lundberg and Tell, 1997, see the CAU homepage at [http://www.cau.hh.se/cau\\_eng/resurseng.html](http://www.cau.hh.se/cau_eng/resurseng.html)). This project was part of their PhD research programme located at the *Department of Operations Management and Work Organization*, School of Technology Management and Economics, Chalmers University of Technology, Sweden (see the homepage of the Department at <http://www.mot.chalmers.se/dep/ao/Root.htm>). The PhD programme is titled, *Networks as a Way of Improving Small and Medium Sized Manufacturing Enterprises* and is currently (i.e., in June 1999) in the writing up stage, but accounts of the project have been presented and published in a number of academic forums (Lundberg and Tell, 1997; Lundberg and Tell, 1998). An abstract of this project, available on the Internet, has been reproduced below.

*Abstract:* Small and medium sized enterprises are an important feature of the Swedish industrial infrastructure. The formation of collaborative networks is seen as an important

means for dealing with a shortage of financial, technical and other resources. This article deals with the start up and development of two networks involving managers of small and medium sized enterprises (SMEs) and researchers from the Centre for Working Life Research and Development of Halmstad University. The striking features of the various phases of the development of the networks, as well as of those of the role of the researchers, are presented and discussed. Some important recent developments, such as connections between networks and community-based relationships, are also revealed. (Reproduced from the publisher's web page for the journal *Concepts and Transformation* at [http://www.benamins.com/jbp/journals/Cat/Cat\\_21.html](http://www.benamins.com/jbp/journals/Cat/Cat_21.html).)

A more detailed description of the project will now be provided. The researchers had started with the aim of contributing to regional development by initiating and supporting the development of a network of small and medium enterprises (SMEs) in the province of Halland on the west coast of Sweden. It was expected that such a network would 'enable the participating companies to pool their resources' (Lundberg and Tell, 1997, p. 3) and allow the researchers (as engineers) to provide technical assistance in the activity of new product development involving designing, manufacturing, and marketing.

### *Survey and Interviews*

The first step involved a survey to identify the SMEs who might be interested in developing such a collaborative network. A detailed questionnaire was sent out to 202 SMEs in the province of Halland. The questionnaire consisted of different questions about product development covering technical, economic, organisational, and market-related issues. The overall aim was to identify whether the SMEs had the required resources and the wherewithal to conduct an effective product development process and whether they saw the possibility of improving their product development process by entering into co-operative relationships with other SMEs. There were also questions about how such co-operative relationships might be brought forth in practice (see *ibid.*, Endnote 2).

In response to the questionnaire, 121 responses were received. Although most responses regarded the notion of a co-operative network as an interesting idea, they also expressed concerns about the 'difficulty of building the necessary trust' (*ibid.*, p. 3). The responses also indicated that a great deal more information would have to be obtained in order to know how to proceed. It was felt that such information was best collected through the method of interviews. Besides, it was also felt that these interviews might also produce the initial dialogue necessary to get the idea of networking off the ground. Subsequently, 20 SMEs were identified from among those who had indicated a clear interest in the idea of a network. An 'interview manual' was designed for this purpose. However, during the process of the interviews the researchers felt that the assumptions underlying its conceptual structure 'did not match the reality of the managers' and the words used by the researchers 'did not connect with the language of the managers'. Consequently, the interview manual was abandoned in favour of 'more open discussions' which allowed the managers to share 'their stories' regarding product development and the possibility of a co-operative network.

The researchers have noted that this experience suggested the need to pay attention to the 'situation of "the other"' in order to develop an effective communication. Besides, it also suggested to the researchers the need to be free from formal definitions, the importance of ambiguity, and the specialised role of language in forming new understanding ('formative use of language', *ibid.*, p. 5). The interview/dialogue process continued for three months. It

became increasingly clear to the researchers that their initial vision of contributing to regional development by providing to a network of SMEs the researchers' 'expert' knowledge of new product development was in need of some revision. However, the type of revision required was not very clear although the researchers realised that it needed to include the role of becoming 'partners in a dialogue'.

The paper (Lundberg and Tell, 1997, p. 5) describes the first breakthrough that came towards the end of the series of discussions. One of the participant managers in these discussions spelt out the structural features of a network consisting of some SMEs and the Halmstad University which the researchers represented. The researchers have reported, 'He was able to articulate what was already "there" but that we had not recognized.'

#### *First Series of Network Dialogues (Network South)*

On the basis of the above depiction of the network, a detailed proposal to start developing the network, including a 'model', was worked out (in the Winter of 1994) together with the participating managers. Five SMEs located in the southern part of Halland were interested in working with the model to develop a collaborative network. The proposal was approved for financial assistance by the Swedish Work Environment Fund. The model was based on the idea that two managers from each of the five companies and the two researchers (representing the Centre for Working Life Research and Development, Halmstad University) would meet periodically, each time at a different company's site (the company acting as a host), to focus on at least two issues of particular concern to the host company. The researchers would collect some relevant information from the host company a few weeks before the meeting and prepare a report to be distributed to all the participants. The meetings would include small-group discussions, a SWOT (Strength, Weakness, Opportunity, and Threat) analysis for the host company, and a summing up session. After the fifth meeting a summary meeting would be held to conclude the series in which the entire experience would be reviewed (*ibid.*, pp. 6-7).

The researchers have mentioned about their strong belief throughout the project that the network development process had to be participative and that the managers had to shape the network themselves although the researchers might act as partners in the process. However, the researchers also realised that the managers expected a certain 'expertise' from them especially as they represented a university. (This tension was not explicitly managed during the project as it was recognised by the researchers only towards the end of the series of discussions.) The researchers have left open the question of what the action researcher's role ought to be.

Reflecting about the experience of these discussions, the researchers have noted certain advantages of not structuring these discussions too much and of not imposing any definitions, concepts, language, or method. Due to the unstructured nature of the meetings, the participants became more and more open, spontaneous, and informal, and the meetings gradually became more and more 'self-steering' (*ibid.*, p. 10). They began to value the entire experience and reported about specific benefits such as better understanding of their own business and organisation, improved communication within their companies, and a greater capacity to address difficult issues within their companies.

The researchers have described about a change in their own perception about their role in the process. Initially the researchers had expected to be useful to the SMEs by making available

to the SMEs the researchers' professional knowledge on product development. However this expectation changed during the network discussions, as expressed in the following quote:

We learnt not to try to define or understand 'why we were there' in terms of a discipline or as function with organizational or process characteristics. We moved closer to becoming a partner in the discourse, moving in and out of the dialogue, depending on whether it 'felt right' because we could say something meaningful and contribute to the discussion by offering an alternative point of view and thus widening perspectives and increasing options, and help the dialogue along (Lundberg and Tell, 1997, p. 11).

### *Second Series of Network Dialogues (Network South)*

A review meeting was held (in May 1995) at the end of the series of discussions. The experience of participating in these discussions was seen as very positive. However, 'the group thought it necessary to develop its structure further and to change the way it functioned' (*ibid.*, p. 11).

On the basis of the suggestions made at this review meeting, and the subsequent planning meeting (in September 1995), a second series of network discussions were planned and conducted during Autumn 1995 - Spring 1996. These discussions included four of the five SMEs involved in the earlier series; one of the earlier SMEs could not participate in the second series due to some exigency. The second series required each of the four companies to identify a specific issue (or problem) it wished to work with as a project for the whole period; each meeting focused on the projects of two SMEs (rather than two issues from one SMEs, as was the case in the first series); the projects were based on the questions identified in the first series of dialogues.

The researchers have observed that the second series 'provided many more opportunities ... for intra- and inter-organizational learning' by creating 'more effective conditions for exploration and reflection' (*ibid.*, p. 13). It was in the second series of discussions that the participants began to relate one meeting with another in such a way that the relationship itself, rather than the individual meetings, emerged as a new 'frame of reference'. The researchers have also noted that the projects which focused on practical and ad hoc questions got off the ground quicker than those which began with a more comprehensive kind of definition (*ibid.*, p. 14). The researchers have explained that the former made it easier for the managers to connect to the dialogue while the latter tended to be more threatening as it seemed to screen off their experience.

Much of the discussion in these meetings was about organisation, i.e., the relationship between people, technologies, systems, etc. According to the researchers, participating in the network itself proved to be an educational experience on organisational matters as the network allowed its participants to make changes to the network. The review meeting (in Spring 1996) for the second series suggested that the participating SMEs were keen to continue the interaction.

### *A Second Network (Network North)*

This was an after-effect of Network South as a group of SMEs in the northern region of Halland heard about the Network South and asked the researchers if they could assist these

SMEs in building a similar kind of network. The researchers followed the approach used in the first series of network dialogues for Network South. Some similarities and differences have been noted between the processes of development of Networks North and South. Both the networks demonstrated the importance of group processes in the formation of such networks. However, due to the differences in 'personalities' and 'interpersonal relations', Network North got off the ground and 'found its rhythm' much faster than Network South did (*ibid.*, p. 16).

The researchers have suggested that their experience with Network South and the knowledge based on that experience 'was both a help and a hindrance'. While this experience/knowledge helped the researchers guide the process and manage the difficulties as they arose, it also sometimes prevented them from hearing what was being said and prompted them to act in such a way as to 'inhibit the group from discovering its own development process' (*ibid.*, p. 14). The researchers have concluded that the success of such processes depend upon an effective management of the creative tension between knowing and not-knowing. Quite like Network South, Network North also decided to continue the interaction.

### *Subsequent Developments*

After the two networks (South and North) developed, four new collaborative structures began developing with various interconnections among themselves and the two original networks. The researchers have suggested that it is not possible to ascertain the full significance of this emerging pattern of connections but it is possible to visualise a 'new infrastructure' emerging that would link the SMEs and the communities in the province of Halland in Sweden (*ibid.*, p. 17). These four new developments were the following: (i) a *network of networks* (NON) between Network South and Network North to address issues of general concern to both the networks, e.g., use of the Internet technology and the involvement of the employees in the networks; (ii) the actual development of a Homepage for the NON on the World-Wide Web and an Intranet to be used by the participating SMEs; (iii) the launching of a project by the NON to include the employees in the network interactions; and (iv) the initiative of the Community Development Association of the municipality of Tvååker (northern Halland) to develop a new regional network with the help of the existing networks and the two researchers involved with their development.

### *Some Reflections by the Researchers*

The researchers have summarised their reflections in terms of 'three types of network practice': (i) a first practice that focuses on building trust among some SMEs and facilitates their learning about each other; (ii) a second practice that focuses on strengthening inter-organisational relationships which function as a support for further learning and development of the SMEs, and (iii) a third practice that focuses on extending the relationships in new directions so as to develop a region-wide infrastructure to support the SMEs and the communities in the region (Lundberg and Tell, 1997, Table 1, p. 20).

According to the researchers, the process of network development involves situations 'in which one has to give meaning to a state which is "in between", which is "neither here nor there"' (*ibid.*, p. 22). They have suggested that such situations ('transitional spaces') provide the opportunity to explore choices, jointly set agendas, build trust, take leaps in to the unknown, etc. They have emphasised that the researchers' role in this process cannot be described in some static or determinate fashion; there must be a degree of fluidity and

indeterminacy built in to it. They have described the role as ‘being both inside and outside’ (*ibid.*, p. 23). They have described the process as ‘moving from practice to practice’ (*ibid.*, p. 23).

### 9.3.2 Reinterpreting the Project

The project described in Section 9.3.1 appears to be quite successful in developing two networks of SMEs and a continuously expanding domain of interaction between them. However, the researchers’ characterisation of the project (Lundberg and Tell, 1997) as one that moved from ‘practice to practice’ does not seem to clarify what was indeed achieved in the project that might be transferred to other action researchers and applied by them in a different context. Of course, the researchers have mentioned a number of their achievements in the course of the project, e.g., their success in identifying and playing the role of partners in a dialogue, managing a balance between knowing and not-knowing, managing to be both inside and outside, and moving from practice to practice in such a way that the process constituted an improvement for the SMEs and for the region of Halland. It is felt by the present author that these achievements and successes are in need of further interpretation in order that the research-like direction followed in the project and the specific results of following it might be highlighted. An attempt will be made to produce such an interpretation using the *vocabulary of agency*.

In fact, the project serves to demonstrate clearly a number of elements of the conceptual framework developed in this thesis. Broadly speaking, the research direction followed in this project seems to be quite distinct from that followed in the public health project discussed earlier (see Section 9.2). While the public health project sought to introduce a common scientific standard to be followed by a number of actors within a context, the SME networking project did not have an access to any such scientific standard. It however followed the direction of orchestrating a type of interaction among the actors such that some specific effects might be achieved. The specific effect aimed for was the formation of a collaborative network which would be created and used by the participating SMEs to improve their internal operations and management. From their initial survey and interviews the researchers realised that the formation of any such network would require a degree of trust to be built/nurtured among the participants. This implies, in the way of thinking of the conceptual framework being assessed in this chapter, that potentially a number of different networks (i.e., *resources*) might be possible, but only a few of them would have the chance of survival and actual use. This suggests the existence of an *agency-encouraging world* (see Section 7.3, paragraph titled *The Notion of Agency*) as well as the existence of a *problem of diversity*. The conceptual framework defines the problem of diversity in the following words:

A problem of diversity may exist within a context that allows **agency** (i.e., agency-encouraging world). Because the context allows agency, a diverse set of useful combinations (**resources**) might be possible. This creates the problem of choosing a specific combination and implementing it in that context. The present conceptual framework poses it as an unsolved problem. It might be the case that some combinations are generally preferable to the rest. When such a clear choice does not exist, a choice might be made based on the criterion that it conserves agency at some level (Table 7.1).

In the light of this interpretation, it seems possible to characterise the type of research problem the SME networking project was addressing. It was addressing the problem of producing a



*resource* within a particular context which would be used to bring about some *local improvement*. Besides, it was interested in finding out whether the activity of bringing forth and using that *resource* could have some interesting effect in the wider environment surrounding that context.

In attempting to produce a *resource*, the researchers realised that they would need to create an opportunity for the potential *producers*, *users*, and *improvers* to interact in some fashion. The *form of interaction* employed by them was allowed to change during the process. It changed in the direction of allowing an increased interaction, a greater number of issues/topics to be addressed, an increased opportunity for the participants to voice their experiences and interests, etc. It should be noted that the opposite direction (i.e., that of reducing the interactions, topics, voices, etc.) might (or might not) have worked in that context. Much further conceptual development is required in order to articulate clearly the conditions that make a situation conducive to the production of a useful *resource*. The *vocabulary of agency* is meant to be a contribution in that direction. The vocabulary allows for the accumulation of a repertoire of *agency-enhancing devices* which can guide future activities of this type.

Pursuing this line of reinterpretation, a number of issues might be highlighted in discussing the project. The following paragraphs make use of the conceptual elements from the *vocabulary of agency* to accomplish this task.

### *Resource*

The researchers have clarified their background thinking about the need for a *collaborative network* among the SMEs in the province of Halland in Sweden. The possibility of such a *resource* being produced was also explored during the initial survey and interview phases. However, another equally important issue remained somewhat less explored: the issue of why such a *resource* had not emerged in the natural course of events in the province of Halland. An exploratory inquiry on this issue might have identified what the province was (or the SMEs were) lacking. This would have influenced the orientation of the project towards addressing this lack in a sufficient and sustainable manner.

### *Local Improvement/Learning*

The researchers were quite explicit in the beginning about the sort of *local improvement* expected from producing and using the collaborative network. The network was expected to help the participating SMEs overcome the shortage of finance, technical knowhow, and trained personnel and become capable of undertaking product development projects in a collaborative manner. However, during the initial phases of the project it became clear that the notions of the network and the resulting local improvement visualised by the researchers were understood and interpreted by the SMEs in many different ways. Instead of trying to reduce this variety by introducing some common understanding, the researchers viewed it as an opportunity to get a dialogue started. Given the open-ended nature of the dialogue and the minimal restrictions imposed by the researchers, it might be interpreted as a search for alternative *resources* for achieving alternative *local improvements*. This was a special feature of the project which was absent, for example, in the public health project discussed earlier. However, it seems to the present author that this special feature needs further discussion as to why it was introduced, how it was implemented, and what was learnt in the process. Although such a discussion is present in the paper that describes the project, it needs to be conducted in a more general way, independent of the specific project context, in order to

highlight the general issues involved here. One of the general issues might be related to what the researchers have referred to as a ‘formative use of language’:

It was becoming clear that definitions do not necessarily create understanding. We began to tolerate and understand the importance of ambiguity in our discussions and of the formative use of language (Lundberg and Tell, 1997, p. 5).

To discuss this issue in a general way such that the insight obtained might be used in a different context by different researchers requires a conceptual vocabulary of the type being assessed in this chapter. For example, such formative use of language might be a special type of *agency-enhancing device* that might have the generic quality of *enhancing agency* in situations afflicted by the *problem of diversity*.

### *Role and Mobility*

Interestingly there was much reflection in the project about the role(s) played by the researchers. The paper highlights some of the issues and tensions associated with the researchers playing an ‘indeterminate’ role or playing many different roles from time to time. It seems the *vocabulary of agency* might help clarify some of these issues in a constructive way. According to the vocabulary, there are three distinct *roles* involved in a project like the one being discussed: *producership*, *usership*, and *improvership*. It was the interest of the researchers that the SMEs should not only be the users of the network, but also involved in its production as well as the improvement of both these activities, i.e., production and use. This type of interest is encapsulated in the vocabulary through the notion of *mobility* among the *roles*. The conceptual framework (on which the vocabulary is based) suggests that such mobility might be enhanced in a systematic way, e.g., through *models*, *tools*, and *interfaces*. Because this type of conceptual articulation was not available during the project, the question of role proved to be so full of uncertainties and tension, and led the researchers to comment: ‘The research role in action research is fluid and indeterminate’ (Lundberg and Tell, 1997, p. 23). In the reinterpretation being developed here, the research role is not indeterminate in the sense that it is clear what it ought to involve; it ought to include the design/selection and the implementation of the appropriate *models*, *tools*, *interfaces*, *form of interaction*, and other *agency-enhancing devices*, etc.

### *Form of Interaction*

The project made use of many ideas about the *form of interaction* among the three *roles* involved in the project although these remained somewhat less articulated due to the lack of an appropriate conceptual vocabulary. In fact, one of the basic ideas in the project, i.e., the idea expressed in terms of ‘network approach’, ‘first practice’, ‘second practice’, etc., is close to the idea of a *form of interaction*. The researchers had a lot of clarity about what they expected from the dialogues (e.g., ‘... the managers had to do the “design” themselves’) and how they sought to achieve it (e.g., ‘... we created more effective conditions for exploration and reflection ...’). However, the present author feels that this clarity needs to be translated in a more formal way in order to function as an effective guide for future researchers. The *vocabulary of agency* might contribute by indicating a possible direction for such articulation. The general direction indicated by the vocabulary is to focus on *agency-enhancing devices*. The potential of a ‘formative use of language’ as an *agency-enhancing device* might be the main insight from the project.

### *Agency (local and global) and Enhancing Agency*

In this reinterpretation of the project, it might be said that the main aim of the project was to contribute to the enhancement of *local* and *global agency* in the context of regional development in the province of Halland in Sweden, viewing the SMEs as a key group of actors in the context. Enhancing *local agency* would mean increasing the capability of a particular group of SMEs to bring forth new and useful *resources* and enhancing *global agency* would mean contributing to the general capacity of the SMEs (and the other actors) in the region (and elsewhere) to bring forth new and useful *resources*. This type of aim was actually implicit in the project although not articulated in this fashion. The advantage of such articulation is that it highlights what is most challenging in such a project. It also helps one recognise whether and how the challenges are being met in the course of the project.

### *Local-Global Distinction and Operational Coupling*

One of the main general themes of the paper was that of ‘moving from practice to practice’. What is left somewhat unexplored is whether there is something special about a way of moving from practice to practice. The present reinterpretation indicates what might have been the special contribution of the project, i.e., the demonstration of a ‘formative use of language’ as an *agency-enhancing device*.

However, the *vocabulary of agency* also indicates certain additional challenges inherent to any research-oriented and action-oriented venture, e.g., *learning* at *local* and *global* levels and *operational coupling* between the two levels. That such notions were not available to the researchers in this project is evident from the paper. Consequently, the researchers have not highlighted any particular *demarcation* of their work. The main theme of the paper, i.e., that of ‘moving from practice to practice’, indicates that there is a need to find a more suitable way to characterise the contribution of the researchers in order to highlight its distinctiveness. The reinterpretation developed here suggests that the *vocabulary of agency* might help in this task.

A closer review of the paper indicates that there was a form of *local-global distinction* involved in the project. Consider the researchers’ comment on the second network approach:

The second network approach provided many more opportunities, both in space and in time for intra- and inter-organisational learning (Lundberg and Tell, 1997, p. 13).

However, due to the nonavailability of an appropriate conceptual vocabulary, the researchers have not been able to highlight the differences between these two types of learning and their interrelations.

Describing the developments leading to the formation of the network of networks (NON), the researchers have emphasised that the events have moved in the direction of producing a new type of infrastructure. This has been characterised by them in terms of ‘widening the connections’, ‘expanding the network’, ‘a potential pattern of evolving connections’, etc. (*ibid.*, pp. 17ff). It seems this characterisation might be strengthened by introducing the *local-global distinction* and the notion of *operational coupling*. According to the conceptual framework being assessed here, something widening, expanding, or evolving might signal a

*global improvement*, but it cannot fully justify a research-like direction unless it can be shown that the process also involves an *operational coupling* between two levels, local and global. That way, the two can have a critical and constructive influence on each other. Without this restriction, demarcating a research-like process from any other process becomes difficult to establish.

From the reports available about the project, it is not possible to ascertain whether such a coupling was involved in the process. One implementation of such a coupling might have been achieved by treating the notion of a ‘formative use of language’ as an *agency-enhancing device*. Having established the value of this device in one local context (e.g., with some SMEs from southern Halland) and another local context (e.g., with some SMEs from northern Halland), it could have been transferred (perhaps in terms of a ‘methodology’) to a more general context thus establishing an operational link from a local to a global level.

The next task of research would then be to establish the quality of the device (or the ‘methodology’) at the global level. It might be done by demonstrating that it could be used (or implemented) by any interested group of actors to bring forth new and useful *resources*. The experience of doing this would have to be fed back from a global to a local level in order to explore specific improvements in the device or even inventing totally new devices, thus completing the operational cycle of action-oriented research.

### **9.3.3 General Outcomes**

The reinterpretation developed in Subsection 9.3.2 has produced the following general outcomes.

#### *Sharpening the Research Question*

The SME networking project discussed and reinterpreted in the above Subsections might be viewed as a successful research project although the published account of the project does not sufficiently characterise the nature of that success. Not only does it create a difficulty in transferring the insights to other researchers working in other contexts, it also does not give any clear indication of the future directions the research could take. It was found that these difficulties might be addressed by using a suitable conceptual vocabulary which is able to produce a more formal account of the research project. The *vocabulary of agency* appears to serve this purpose quite satisfactorily.

Clearly the project aimed at bringing forth a new and useful *resource*, i.e., a collaborative network of SMEs in a particular region. The reinterpretation presented above (Subsection 9.3.2) helps in specifying the research questions the project has sought to answer.

Accordingly the questions could be on the following lines: What do the SMEs or the province of Halland lack in absence of which a collaborative network (a *resource*) among the SMEs has not emerged in the natural course of events in the province? What would be the characteristics of a *form of interaction* among the various actors which, if implemented, would result in the production of such a collaborative network? What kind of effort would be required to ensure that the insight and the learning derived from the project could be translated in to a general rise in the capacity to bring forth such useful resources in the province?

### *Specifying the Achievements*

The reinterpretation seems capable of specifying the achievements of this project. The project involved many ideas which could be specified using the *vocabulary of agency*. Different kinds of improvement and learning have been achieved in the project. These could be identified as belonging to either a *local* or a *global* level. The idea of a ‘formative use of language’ has been reinterpreted as an *agency-enhancing device* that functions by addressing the *problem of diversity*. Of course, this reinterpretation requires that the device be specified in much greater detail and, perhaps, developed in to a ‘methodology’. Only then can it be applied in general and the experience of doing so can be fed back to improve upon the device (or ‘methodology’) in a systematic manner.

### *Clarifying the Role of Researchers*

Where as the published account of the project has viewed the role of the researchers as indeterminate, the reinterpretation has identified a number of determinate elements in their role. These elements include the following: designing (or selecting) and implementing the appropriate *models, tools, interfaces, form of interaction*, and other *agency-enhancing devices*, distinguishing the achievement at a *local* level from the achievements at a *global* level, ensuring that the local and the global levels are *operationally coupled*, etc.

### *Addressing the Demarcation Issue*

The reinterpretation has found that the theme of ‘moving from practice to practice’ is equivocal on the issue of demarcation, i.e., in pointing out what was distinctive in the research project. However, the reinterpretation has also found a number of distinctive aspects in the project which need a proper conceptual vocabulary in order to be represented as such. The *vocabulary of agency* seems to help in this. However, it also indicates a number of additional issues (e.g., operational coupling) that need to be addressed in order to highlight the distinctive aspects as well as to indicate the future research directions.

### *Improving the Communication of the Research Results*

Finally, the reinterpretation based on the *vocabulary of agency* provides a way of communicating the results of this research project such that these might be tested by other researchers working in different contexts. This illustrates the power of the vocabulary in communicating the results of action-oriented research, especially if the research is oriented towards increasing the general capacity (among a set of actors) to bring forth new and useful resources.

## **9.4 Summary of the Assessment**

The previous two sections described two action research projects and discussed (reinterpreted) their results in terms of the generic conceptual framework developed in this thesis (articulated in terms of the *vocabulary of agency*). The following outcomes were obtained (as discussed in Subsections 9.2.3 and 9.3.3):

- Detection of a Shift of Focus
- Identification of Alternative Research Directions

Identification of Additional Areas of Study  
Introduction of Additional Criteria for Designing the Intervention  
Clarification of Opportunities for Innovation  
Characterisation of Possible Results of General Interest  
Sharpening the Research Question  
Specifying the Achievements  
Clarifying the Role of Researchers  
Addressing the Demarcation Issue  
Improving the Communication of the Research Results

On this basis, it might be concluded that the generic conceptual framework (expressed as the *vocabulary of agency*) has the following qualities:

- (i) It provides one way of discussing an action-oriented research project critically and constructively;
- (ii) It brings many crucial issues together under a conceptual framework using a specific vocabulary thus facilitating research communication;
- (iii) It opens up a number of possibilities for visualising how research might contribute in a practical situation requiring some kind of support and betterment;
- (iv) Thus, it opens up many choices for designing action-oriented research projects and new ways of specifying their results;
- (v) It indicates alternative research strategies in multi-actor contexts;
- (vi) It helps articulate the role of researchers in action-oriented research projects;
- (vii) It identifies the place of creativity and innovation in an action research project; and
- (viii) It also provides a way to identify what might be derived as results of more general interest and how such results might contribute to different research projects in future.

On the whole, the generic conceptual framework developed in the thesis seems to be a promising contribution to the current debates about action-oriented research. The framework seems to be generic enough to apply to research-like endeavours in many different domains.

## Conclusions and Future Directions

### 10.1 Conclusions

#### 10.1.1 Main Results

The study involved the development and a subsequent assessment of a generic conceptual framework for action-oriented research to guide such research in various domains of application. The development of the framework involved: (i) a review of a broad range of literature pertaining to action-oriented research, (ii) an exploration of the practice of action-oriented research in India in several domains of application, and (iii) an exploration of the integrative notion of *agency* in some research areas. The conceptual framework has been expressed in terms of the *vocabulary of agency* (see Table 7.1). The assessment of the framework involved: (i) an assessment of the contributions of the vocabulary to the current academic debates in management systems thinking and action research fields (in Chapter 8) and (ii) two *post mortem* studies in which two action-oriented research projects were reinterpreted and discussed in terms of the *vocabulary of agency* (in Chapter 9). The results of the assessment have been presented in the concluding sections of Chapters 8 and 9 (see Sections 8.4 and 9.4). These are reiterated below for the ease of reference:

The conceptual framework makes the following contributions to the current academic debates in management systems thinking and action research fields (see Section 8.4 for a more detailed description):

*It circumvents the dichotomy between ‘normal’ research and the proposed alternatives.*

*It introduces new thinking for the future of action research.*

*It contributes to the demarcation debate.*

*It suggests a model of research utilisation based on capacity building.*

*It elaborates the research thinking in organisational cybernetics and system dynamics.*

*It elaborates and complements the idea of recoverability.*

*It identifies additional concerns for soft operational research.*

*It articulates some research issues concerning ‘methodological pluralism’.*

*It links action research and management systems thinking.*

The *post mortem* studies presented in Chapter 9 in which two action-oriented research projects were reinterpreted and discussed in terms of the *vocabulary of agency* indicate the following qualities of the generic conceptual framework (see Section 9.4 for a more detailed description):

*It provides one way of discussing an action-oriented research project critically and constructively.*

*It brings many crucial issues together under a conceptual framework using a specific vocabulary thus facilitating research communication.*

*It opens up a number of possibilities for visualising how research might contribute in a practical situation requiring some kind of support and betterment.*

*Thus, it opens up many choices for designing action-oriented research projects and new ways of specifying their results.*

*It indicates alternative research strategies in multi-actor contexts.*

*It helps articulate the role of researchers in action-oriented research projects.*

*It identifies the place of creativity and innovation in an action research project.*

*It also provides a way to identify what might be derived as results of more general interest and how such results might contribute to different research projects in future.*

These results show that the conceptual framework (expressed as the *vocabulary of agency*) has a certain generality in addressing a whole range of conceptual issues being discussed in management systems thinking and action research fields. Besides, the framework also seems capable of functioning as an effective guide in designing and conducting action-oriented research projects in several domains of application.

It might be worthwhile in this chapter to reflect on the kind of conceptual and practical contribution the framework makes and the kind of demands it makes on researchers engaged in achieving action-oriented and research-oriented results from practical projects.

### **10.1.2 Conceptual and Practical Contribution**

The present study found that the literature of *action research* highlights some of the pitfalls of adhering literally to some preconceived notion of ‘scientific research’ in dealing with human, organisational, and social problems. The commentators on action research argue that the ‘knowledge’ generated by rigorous research might not be sufficient to achieve the desired improvements in such problem situations. Besides, the emergence of such ‘knowledge’ might take an indefinitely long time. Most practical situations require that context-specific ‘knowledge’ be produced within the situation, in a time-bound manner. The literature in this area also points out that some of the more relevant human phenomena are not at all amenable to external observation, e.g., the principles and notions human beings use in carrying out actions. Such awareness in combination with the demand on professional researchers to be useful within practical contexts has led to the emergence of a number of action research approaches which deal with human, organisational, and social problem situations so as to



bring about the required improvements. Most of these approaches seem to focus on creating (or improving) the situation-specific 'knowledge' that would ameliorate the problem situation. Most of these approaches highlight the need for encouraging and allowing people to define their own problems, solve such problems in groups, share experiences, have critical and constructive conversations, reflect on their own behaviour and actions, adopt the inquisitive and critical mind-set of a researcher, articulate and use their own 'local knowledge', be helpful towards each other, etc.

However, as described in detail in Chapter 3, the action research literature has engendered a whole host of academic debates concerning the nature, quality, and implications of the above type of work. The action-like component of such work might be self-evident; but the research-like component is not always so evident in itself. Occasionally, there have been attempts to rescue some type of research thinking in the action research literature. But these attempts have ironically ended up either in the same type of scientific thinking that was itself being criticised (e.g., attempts relying on some form of *falsificationism*) or in interpretative or deconstructionist types of model for scholarly work thus producing multiple voices in the academic literature with very little possibility of any *constructive conversation* among the voices. It seemed that the impasse in this area is not likely to be dissolved without the introduction of some fresh ways of articulating the debates and the proposals.

The present study found that the literature of *management systems thinking* also highlights some of the pitfalls of misapplying scientific reductionism especially in dealing with certain problems of planning and control. However, this literature makes use of a *meta-disciplinary vocabulary* (i.e., the *vocabulary of systems*) in developing and guiding a varied range of management systems approaches. These management systems approaches seem to exemplify, in their various ways, the possibility of doing practically useful work for specific clients while also seeking to produce some form of systematic body of knowledge. In some cases such knowledge takes the form of 'knowing-that' pertaining to certain classes of systems (expressed in varying degrees of formalism); in some other cases it takes the form of 'knowing-how' or 'knowing-from-within' seeking to accomplish some desired effects in practical situations using some 'systems methodologies' (i.e., ways of co-ordinating activities, communications, observations, etc.) (for an explication of these different forms of knowing in relation to management systems thinking, see Tsouvalis and Checkland, 1996).

This literature offers a remarkably different perspective with regard to the types of debate witnessed in the action research literature. The *vocabulary of systems* seem to make it possible for the researchers working in this area to articulate their research-like results in systems terms. Such results come in various guises, e.g., the properties and structures of certain classes of systems, methods for using the system notion to generate collective action or collective control over action, guidelines for building on the available research-like results, etc. This literature gives the impression that there can be a *plurality* of 'research frameworks' ('frameworks of idea', research languages, or research paradigms) in order to guide and inform applied systems research type of work.

*Whereas the action research debate has got embroiled in a phenomenon that might be described as the evaporation of the scientific framework, the management systems literature has managed to retain its research impetus through a phenomenon that might be described as a proliferation of scientific frameworks guided by a meta-disciplinary vocabulary, i.e., the vocabulary of systems..*

The present study has produced another meta-disciplinary vocabulary, i.e., the *vocabulary of agency*. It is logically distinct from the *vocabulary of systems* as it focuses not on systems *per se* but on the capacities and the interactive processes that help bring forth systems and such other *resources* which function as a support to practical action. The *vocabulary of agency* strives to articulate these interactive processes, the obstacles, and the requirements to make it into a research-like activity. It functions as a generic conceptual framework for action-oriented research as such research generally involves the bringing forth of practically useful resources of various types.

The conceptual framework emphasises three crucial requirements with regard to action-oriented research: (i) Such research has to involve the production of a *resource* which provides a useful support within a practical context leading to *local improvements*, (ii) it also has to involve some type of systematic improvement of the interactive processes, methods, tools, etc., such that these might be formally specified and transferred to other contexts resulting in a general rise in the capacity to accomplish such local improvements (this is termed as *global improvement* in the vocabulary), and (iii) there has to be a type of *operational coupling* between (i) and (ii) such that each provides a constructive and critical influence on the other.

The framework helps in thinking clearly about some of the difficulties of fulfilling the above three requirements. Each requirement could become quite challenging in certain circumstances. It might be difficult to achieve the desired type of *local improvement* if no particular *resource* could be conceived that would yield such improvement. Even if a *resource* could be conceived, there might be difficulties in bringing it forth, maintaining it against various disturbances, facilitating its use, ensuring that the improvement is in fact occurring, etc. The second requirement, i.e., that of formally specifying and transferring the processes, methods, etc., could offer another set of challenges. A third set of challenges would be related to the task of ensuring an *operational coupling* of the type mentioned above.

The *vocabulary of agency* clarifies a number of concepts which should fertilise the thinking about the above challenges. The core notions of *agency* and *enhancing agency* provide the broad direction along which the challenges might be addressed. The notions of *role*, *resource*, *mobility*, *form of interaction*, *agency-enhancing device*, etc., provide the required practical guidance for addressing these challenges systematically.

### **10.1.3 Demands on Action-oriented Researchers**

The study implies the following demands on action-oriented researchers:

- (i) To reflect on the type of *resource* which would bring forth a desired type of *local improvement* within a given context.
- (ii) To explore why such a *resource* has not been produced in the natural course of events in that context.
- (iii) To actually implement an interactive process that addresses the prevailing obstacles and succeeds in bringing forth and maintaining such a *resource*.
- (iv) The design or selection of appropriate *agency-enhancing devices* to accomplish the above.
- (v) To ensure that the *resource* so produced is in fact used to yield some desired *local improvement*.

- (vi) To specify these *agency-enhancing devices* and transfer these to other practical contexts.
- (vii) To study the effect of these devices in these new contexts.
- (viii) To use the results of such studies in order to systematically improve or augment these *agency-enhancing devices*.
- (ix) To contribute to a formal discourse on *agency*, identify the conditions that encourage or discourage agency, and to systematically enrich the understanding about how this capacity might be enhanced in various practical domains through a research-like process.
- (x) To elaborate and improve the *vocabulary of agency* by incorporating the insights from other domains of research which focus on collective phenomena, e.g., actor network theory, conversation theory, co-ordination theory, organisation theory, social theory, systems theory, etc.

## 10.2 Future Directions

A number of topics need to be addressed in the future, in order to explore the potential of the conceptual framework developed in this study and to enrich it further. Four such topics have been identified below.

### *Repertoire of Agency-enhancing Devices*

According to the conceptual framework, two types of accumulation of results can happen from action-oriented research guided by the *vocabulary of agency*. On the one hand there would be an accumulation of *agency-enhancing devices* and on the other there would be an increase in the general capacity to bring forth new and useful *resources* (i.e., enhanced *agency* at local and global levels). To be true to this type of research direction, a repertoire of such devices needs to be built up over time as experience of such research accumulates. These devices must be so specified that these might be transferred with a minimum of effort. Only future research will clarify whether a generalised repertoire of such devices is possible or whether many specialised ones will have to be produced.

New ideas for innovating such devices might arise from several research fields, especially those concerned with the study of some type of collective phenomena. Such phenomena are known to arise at many different levels and domains of reality. The research fields dealing with such collective phenomena must be viewed as sources of new ideas for action-oriented research in the future.

### *Research on Collective Phenomena*

Collective phenomena are known to arise at sub-atomic, atomic, molecular, organismic, and social/cultural levels. Several research fields have been dealing with the spontaneous emergence of order or pattern within their domains of investigation. So pervasive have been these phenomena that a number of interdisciplinary theoretical perspectives dealing with these have emerged and attracted researchers from different backgrounds. Examples of such perspective would include:

*Self-organisation theory* (see Cybernetics, Systems Theory and Complexity page at <http://www.cudenver.edu/~mryder/itc/complexity.html>)

*Actor-network theory* (see Actor-Network Theory page at [http://www.cudenver.edu/~mryder/itc\\_data/act\\_net.html](http://www.cudenver.edu/~mryder/itc_data/act_net.html))  
*Conversation theory* (see Cybernetics and Conversation page at <http://www.pangaro.com/published/cyb-and-con.html>), and  
*Co-ordination theory* (see The Center for Coordination Science page at <http://ccs.mit.edu/>).

The ongoing research using these theoretical perspectives should provide a number of ideas to innovate new types of *agency-enhancing device*. Such devices should be put to experimental use in action research and systems practice projects.

### *Systems Practice*

Systems thinking and practice today seems to be as concerned with *systems methodologies* as it is with *systems theories*. While the latter seeks to formally describe certain classes of systems (e.g., ‘living systems’), the former focuses on implementing an interactive process in order to bring forth instances of some class of systems. The latter type of systems thinking and systems practice has attracted many action researchers in the recent years. This kind of thinking and practice has been informed by the conceptual vocabulary of systems. However, since such practice involves the production of useful *resources* (systems in this case), the *vocabulary of agency* can also contribute to such practice. The latter vocabulary would focus the practitioners’ attention on issues which the vocabulary of systems ignores, e.g., the issues of *agency, role, mobility, operational coupling*, etc.

Therefore, it might be worth exploring in the future, whether the *vocabulary of agency* could contribute to improving the range of activities generally referred to as systems practice today. More specifically, it would be worthwhile to identify the issues that remain unaddressed within a systems thinking framework. It would remain to be established whether the *vocabulary of agency* could deal with these issues in an effective manner.

### *Management Studies*

The duration of the *Fifth Annual International Conference on Advances in Management*, coincided with the writing of this chapter (see ICAM 1998 Programme page at <http://members.aol.com/icam2000/1998prog.htm>). This provided an opportunity to reflect on the nature and relevance of the present study in the light of the current academic discussions about ‘advances in management’. The issues of the present variety and possible future directions for management research were discussed in this conference (Lundberg, *et al.*, 1998). A distinction between ‘programmatic research’ and ‘opportunistic studies’ was made in this discussion (*ibid.*, 386). The programmatic component of research should strive to maintain and improve the added value that research brings into a context, even in the face of an unstable environment and changing experiences.

The Conference also drew attention to another fundamental issue concerning the type of knowledge management research is expected to produce:

If managers want goal-based “in order to” knowledge while academics produce empirical “because of” knowledge, then application of the latter will seldom provide managers with what they desire (Lundberg, *et al.*, 1998, p. 389).

Thus the Conference seemed to raise the question of how to design ‘programmatic research’ so as to produce ‘in order to’ knowledge. It might be argued that the research programme of management science (or operational research), when it was initiated about 50 years ago, was also an example of ‘programmatic research’ so as to produce ‘in order to’ knowledge. No doubt, that stream of academic work has yielded various significant results. However, several changes in the programmatic component of management science have been proposed and discussed over the years (e.g., Jackson, 1991; Jackson and Keys, 1987; Rosenhead, 1989). A review of the history of application of management science in the last 50 years indicates that:

‘... the story has moved on: there is a new script to write, a new show to put on and there are new roles for us to play’ (Ormerod, 1998, p. 429).

The *vocabulary of agency* might be the source of a ‘new script’ for management science. Such a script would not focus on the principles of designing or optimising systems but on the conditions that enable various organisational (or community-based) actors to design, produce, use, and optimise whatever systems or other *resources* they might need from time to time.

The contemporary management literature seems to focus on the need to build new tools, new skills, and new institutions in order to deal with the various seemingly intractable problems of organisations and society, as the following quotes indicate:

‘... the importance of providing the tools and conditions that liberate people to use their brainpower to make a difference in a world of constant challenge and change’ (Kanter, 1997, p. xiii).

‘... throwing money at problems will not solve them ... Money by itself, without skill building or institutional change, can produce dependency, bureaucracy, and temptations to fraud’ (*ibid.*, p. 279).

However, there seems to be a realisation in the literature that something needs to be changed in the present type of scientific activity in management so as to fulfil the above kind of requirements. This has produced clarion calls to progress ‘beyond the fads’ (Jackson, 1995) and ‘revitalize management as a scientific activity’ (McTaggart, 1997).

The search for such revitalisation and reorientation is also evident in the social sciences, where questions like the following have been asked recently:

Is there socially-located truth that is useful, and has at the same time some basis of credibility beyond the assertions of the author? That is, can there be truth that is collectively validated and controlled but beyond the imperative claims of the current participants in the immediate political battles? And if so, how may we arrive at it? (Wallerstein, 1998).

The conceptual framework expressed by the *vocabulary of agency* appears to exhibit certain desirable features to qualify as a suitable point of departure for such a process of revitalisation and reorientation in management studies. The framework emphasises capacity building by focusing upon specifying a repertoire of *agency-enhancing devices*. These devices are expected to produce the desired effects within the local sphere of ‘the current

participants'. These are also expected to remain as a form of 'socially-located truth' available for harnessing by other participants occupying different spheres of action.

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## Organisations Visited in India

Organisation	Person(s) Contacted	E-mail address (if any)
Academy of HRD Plot No. 6, Journalist Colony Road No. 3, Banjara hills Hyderabad - 500034 India	Dr. C. Balaji Dr. Prem Sandri	ahrdhd1@hd1.vsnl.net.in

It was reported that the broad aim of the Academy is to develop the profession of human resource development (HRD) in India through research and training. It was set up by the *National HRD Network*, an association of Indian HRD professionals (see the Academy of HRD page at <http://www.angelfire.com/or/ahrd/>). A number of academic staff and research scholars are associated with the Academy. Their activities include the documentation of HRD practices in Indian companies and other organisations, professional training programmes for HRD managers and trainees, and maintaining various forms of communications (e.g., through meetings, Newsletters, etc.) among HRD professionals in organisations as well as academic institutions. The Academy seems to think that the goal of professional development might not be achieved by disseminating exemplary HRD practices alone. It might require a more active form of engagement with the organisations where the HRD practices are not well developed. This is referred to as the *capacity building* function of the Academy. The concern here is to ensure that organisations develop structures, cultures and climates that facilitate effective HRD/OD practices.

One of the ideas towards such capacity building being pursued by the Academy is that of the *Individual and Organizational Assessment Centre* (IOAC) (see Individual and Organizational Assessment Centre page at <http://www.angelfire.com/or/ahrd/ioac.html>). The idea of an IOAC encompasses a broader scope than the idea of 'assessment centre' used in the HRD literature. IOAC seeks to combine a broader range of objectives including maintenance and developmental functions for individual members as well as the organisation. It involves implementing an elaborate set of procedures within an organisation to relate the attributes of the individual roles with the strategic needs of the organisation. When properly implemented it can be an important resource in recruitment, selection, training needs assessment, skill development, organisational diagnosis, organisational development, etc. The IOAC seeks to introduce the necessary *feedback mechanisms* so as to facilitate both individual and organisational learning.

The Academy seems to be exploring the relevance of an 'action research' approach to its work, especially the capacity building work. The literature of 'action research' did not appear to be well-known within the Academy.

Organisation	Person(s) Contacted	E-mail address (if any)
Auroville Pondicherry - 605002 India	Rev. Amal Kiran Rev. Nirad Da (both at the Aurobindo Ashram)	

Auroville, inaugurated in February 1968, might be described as an experimental project to develop an ‘international city’ to implement the ideal of universal human unity (Alain, 1995; also see Welcome to Auroville page at <http://www.auroville-india.org/home.htm>; Auroville page at <http://www.miraura.org/aa/av/av.html>). It is difficult to do justice to this supremely futuristic and enormous project involving several nations of the world in the short space available here. The above Internet pages contain a lot of information about the vision and the activities of Auroville. The vision was declared by its spiritual matriarch, referred to as *The Mother*, in the following words:

Auroville wants to be a universal town where men and women of all countries are able to live in peace and progressive harmony above all creeds, all politics and all nationalities. The purpose of Auroville is to realize human unity (Alain, 1995).

The original plan of Auroville was conceived in 1968. But it was not a rigid plan. Besides, there are a large number of issues which are recognised as open, e.g., the nature of technology to be used, the form of education to be adopted, etc. The project has evolved over the years through many ongoing experiments in architecture, education, life-style, membership, production, etc. The city as such is far from being complete, but is still evolving through inspired participation from people throughout the world.

The notion of ‘unending education and constant progress’ mentioned in the Auroville Charter (Alain, 1995, p-1; also see Auroville Charter at <http://www.miraura.org/aa/av/av-charter.html>) is implemented through a spirit of experimentation. The Charter also mentions:

Auroville wants to be the bridge between the past and the future. Taking advantage of all discoveries from without and from within, Auroville will boldly spring towards future realisations (Alain, 1995, p. 1).

A number of present activities at Auroville appear to implement the above tenets in practice. Examples include: environmental regeneration (co-ordinated by the Auroville Greenwork Resource Centre), ecological agriculture and land use (co-ordinated by Auroville Centre for Ecological Landuse and Rural Development), integrated education of children (co-ordinated by Sri Aurobindo International Institute for Educational Research), development of alternative healthcare through Auroville Health Centre, experiments in renewable energy at the Centre for Scientific Research, development of alternative building technology at the Auroville Building Centre, promotion of handicrafts and small-scale industry in about 60 commercial units within Auroville, and various developmental work in the 40 surrounding villages.

Organisation	Person(s) Contacted	E-mail address (if any)
Baan Institute India Maharishi Building 8-2-248/A, Rd No 2 Banjara Hills Hyderabad - 500 034 India	Dr. R Ramakrishnan	ramki@baan.nl

Baan Institute India is related to The Baan Company of The Netherlands (see Baan's Corporate Web Site at <http://www.baan.com/>). The Baan Company provides computer software for integrated planning and control of business processes. The Company's family of products (Baan IV family of products) is said to have a product architecture that lends itself to fast implementation and ease of change. These products are said to go beyond Enterprise Resource Planning (ERP) — a much reported notion in business management software systems. The notion of ERP has been replaced by Baan with what has been called Dynamic Enterprise Modeling (DEM). DEM is said to be the basis of Baan IV. DEM refers to the need for extending (and modifying) a business software when the business grows and evolves, the strategic orientation of the business changes, or the organisation itself changes (see Dynamic Enterprise Modeling page at <http://www.baan.com/solutions/Dem/default.htm>).

The notion of DEM leads to a number of basic questions concerning how *models of interaction* develop and change in organisations. Such questions are sought to be addressed at Baan Institute India. The focus seems to be on the possibility of developing information systems which allow a greater role to the users than the traditional systems accord. In the traditional systems, the users have little control over a system once it is installed. The search at Baan Systems India is for the conditions which will allow a type of process in which designing of systems and using them become co-terminus. An example of such a process is what is called prototype development or 'work-oriented design' in the information systems literature (Baskerville and Stage, 1996). The would-be users and the initial prototype interact in a mutually transforming process until some form of an *eigen value* is reached, i.e., no further changes occur although the interaction might continue indefinitely — precisely what might transpire in the interaction between an architect and the initial sketch scribbled on the back of an envelope (Glanville, 1987).

Organisation	Person(s) Contacted	E-mail address (if any)
Behavioural Science Centre St. Xavier College Ahmedabad - 380009 India	Mr. Prasad M Chako	prasad63@hotmail.com

Behavioural Science Centre works in the domain of community development. The Centre's activities are said to be aimed at some of the marginalised sections of society in the State of Gujarat, India (e.g., tribals, women, and dalits — which literally means the downtrodden, refers to members of the lower castes). The Centre reportedly works with them (in three districts of Gujarat) to raise their social awareness, self-respect, self-reliance, and their capability to organise themselves. These objectives are said to be pursued mainly through training of skills (e.g., fishery, land improvement, management of co-operatives, saving and credit groups, evaluation, etc.) and imparting non-formal education. The Centre seeks to help these marginalised sections create their own organisations which are managed by their own members.

Some of the Centre's strategies include developing a dialogue with the people following the principle of 'conscientisation' described by P. Freire (Heaney, 1995). This type of orientation is said to affect the Centre's training and educational programmes in which it emphasises participatory learning and teaching, uses group processes to enhance the self-worth of individuals and their appreciation of each other, and seeks to de-mystify 'expertise'. The Centre also helps some small voluntary organisations by providing financial and training inputs.

The Centre seems to be interested in discussing the effectiveness of various 'participatory research' methods. An article by Mosse (1995) was indicated as a possible reference point in the discussion. Members of the Centre also seem to be reflecting about the possible directions for their future activities. According to their reports, there seems to be a point in conscientisation type of work where one needs to reflect and innovate on what to do next.

Organisation	Person(s) Contacted	E-mail address (if any)
Blind Men's Association Vastrapur Ahmedabad - 380015 India	Dr. Bhushan Punani	blinab@ad1.vsnl.net.in

This is one of the leading organisations of India supporting blind and other disabled people (see Blind Men's Association Homepage at <http://www.trinetra.com/bma/>). Their activities include education, training, rehabilitation, blindness and disability prevention, corrective surgery, and various other forms of support. They have reportedly developed a number of innovative solutions for specific problems of disabled people and have improved these solutions over time, e.g., tricycles to enhance mobility.

In view of the large and growing number of visually impaired people in the rural areas and the limited coverage of urban-based rehabilitation and educational opportunities, the Association emphasises the potential advantages of Community-Based Rehabilitation (CBR) over institutional approaches to rehabilitation. It has developed a comprehensive manual for CBR which it distributes free of charge. BMA seems to be concentrating on setting up an institute to provide training on planning and management of community-based rehabilitation. This training would be provided to the functionaries of agencies implementing CBR. Future interaction between these agencies and the institute is expected to produce mutual learning around CBR.

The Association will also be represented by its Executive Director at the Special Education World Congress 2000, to be organised at Vancouver B. C. in April 2000 (see the paper by B. Punani at <http://cid.unomaha.edu/~wwwsped/wc/cbs/prf/ind/bp/cmp.html>). The various activities of BMA seem to indicate the makings of a thriving support organisation.

Organisation	Person(s) Contacted	E-mail address (if any)
Centre for Development Research and Documentation 6, Chintamani Apts. 824/D Deccan Gymkhana Bhandarkar Road Pune - 411004 India	Dr. Atul Sapre Ms. Rohini Dr. Anupama Pathak	imdr@giaspn01.vsnl.net.in

The Centre has taken up a number of evaluation studies in the past. Some of their recent evaluation studies are: (i) evaluation of the public distribution system in Pune city, (ii) evaluation of agricultural service centres run by *Janarth* — a development organisation (iii) evaluation of community health programmes of *Vachan* — a development organisation focussing on health, and (iv) evaluation of the watershed programme of the National Institute for Rural Integrated Development (NIRID). The evaluation findings and recommendations are expected to be used by the client organisations to improve their action programmes.

A general approach of CDRD for conducting an evaluation is to explore how the system (or programme) to be evaluated is experienced by its users. Typically reports (responses) are collected from a sample of users and summaries of these report are compared with the intended results of the system (or programme) being evaluated. Recommendations are given to improve user satisfaction.

Sometimes, an evaluation might focus on the experience of people internal to a programme as well as those external to it, e.g., the community health workers of *Vachan*, who were surveyed in order to improve *Vachan's* health programme, besides members of the communities who were taken to be the clients of *Vachan's* services.

CDRD's evaluation studies have brought out a number of instances which go to show the possible limits of the contributions of an evaluation study. According to CDRD's reports, such limits might be imposed by, e.g., the lack of political will, social inequalities, lack of trust, prevalence of bribery, etc.

Organisation	Person(s) Contacted	E-mail address (if any)
Centre for Organization Development PO. Madhavpur Jubilee Hills Hyderabad - 500033 India	Dr. BL Maheshwari Dr. J Venkatachalam Ms. Madhavi Dr. P Pati Mr. MK Srivastava Dr. T. Ravichandran	cod.hyd@sm1.sprintrpg.sprint.com codhyd@hd1.vsnl.net.in

The Centre has been engaged in conducting management development programmes, in-company workshops in the process consulting mode, and various studies on issues related to organisational development (OD). One of the Centre's much noticed process consulting projects was carried out in the Indian public sector steel giant Steel Authority of India Limited (SAIL) (see SAIL homepage at <http://www.sail.co.in/>) over a few years since 1987. The project involved a number of workshops for different levels of senior management of SAIL. These workshops were facilitated by some members of the Centre. The workshops sought to develop a reflective conversation among the participants. The outcomes of these workshops have been described in internal reports of SAIL, e.g., *Strategies for Managing Change*, 1993 and *Effective Implementation of Corporate Strategies*, 1993. The Centre has been invited to initiate similar process consulting activities in Bharat Aluminium Corporation (BALCO), another major public sector company.

The management development programmes of the Centre are typically aimed at senior executives of business corporations. Usually a concession in fee is offered to the participants sponsored by educational institutions, trade unions, voluntary organisations in the development sector, etc. These programmes are typically organised around the following themes: cultivation of organisation culture, enhancement of competitiveness, management of innovation, organisational effectiveness, role effectiveness, strategic management, team building, transformational leadership, etc. The Centre is said to follow participant centred methodologies, namely case discussions, problem solving exercises, role plays, video-recorded simulation exercises, etc. These programmes also include experience sharing by distinguished senior executives.

Organisation	Person(s) Contacted	E-mail address (if any)
Centre for Science and Environment 41, Tughlakabad Instnl. Area New Delhi - 110062 India	Dr. Anil Agarwal Ms. Anumita Roychowdhury Ms. Priti Kumar Ms. Sunita Narain	cse@sdalt.ernet.in

CSE is a public interest research and advocacy organisation focusing on the problems of environmental degradation and the urgency of sustainable development (Centre for Science and Environment Homepage at <http://www.oneworld.org/cse/>). The Centre collects and disseminates environment-related information through public media as well as its own publications, posters, etc. Creating public awareness has been one of its key pursuits (Centre for Science and Environment, 1982). However, in order to have a greater impact, the Centre is said to be currently moving into policy research and advocacy campaigns. The Centre has been highlighting community-based solutions to environmental problems and traditional wisdom in dealing with nature (e.g., Agarwal and Narain, 1997). Some of the current projects of the Centre are: in-depth study of the nature and causes of vehicular air pollution and analysis of policies in this regard, investigation of the health impact of different types of environmental degradation, development of a *green rating system* for industrial units, study of Indian urban wetlands, etc.

CSE publishes books and journals, provides various information services, and produces videos and films, to make people aware of environmental issues and what might be done about them. It produces the internationally prestigious fortnightly *Down to Earth* on current issues of biodiversity, clean technology, climate change, land and forest degradation, life style, pollution, sustainability, traditional environmental wisdom, etc.

CSE visualises a role for itself in providing necessary policy research inputs to relevant policy making authorities, co-ordinating and influencing the priorities of various research institutions in the country, creating greater visibility for traditional environment-friendly technologies, providing relevant data for public interest litigations, influencing the terms of public debate on environmental issues, besides generating public awareness about the causes and the effects of environmental degradation and the possibility of action at various levels to deal with environmental problems.



Organisation	Person(s) Contacted	E-mail address (if any)
Centre for Social Studies South Gujarat Univ. Campus Udhna Magdalla Road Surat - 395007 India	Dr. Lancy Lobo	sscscs@ren.nic.in

This is a social research organisation under the aegis of the Indian Council of Social Science Research (ICSSR), the apex public body to co-ordinate and promote social science research in India. The Centre for Social Studies, Surat, seems to have a particular orientation to social science research. The Centre seems to maintain that the task of social researchers is not only to understand society, but also identify what needs to be changed in it and suggest ways of bringing about this change. One of their recent studies is titled *Ethnography of Malaria in Surat District*. The study is said to have its basis in the realisation that medical and chemical interventions *per se* might not be sufficient for the purpose of malaria control; social and cultural factors might also be important. The study explored people's own notions of disease and health care. These and other observations were used to recommend appropriate methods of malaria prevention and control, communication channels, design of health promotion programmes, etc.

Almost all their studies end with a set of recommendations. The fact that many of the faculty-members of the Centre are also members of various State government committees and district planning boards, might be facilitating the actual implementation of these recommendations.

Organisation	Person(s) Contacted	E-mail address (if any)
Centre for World Solidarity 12-13-445, St. #1, Tarnaka Secunderabad - 500017 India	Mr. MV Sastri Mr. R Murali	

The Centre for World Solidarity, Secunderabad, is associated with the Patriotic People-Oriented Science and Technology Foundation, which is said to focus on the issue of how science might become rooted in people's cultures. The Centre itself has been working recently with farmers in the state of Andhra Pradesh, to explore the possibility of reducing the use of chemical pesticides. Scientists from various research and extension agencies have become involved in these projects. Some of these projects have developed through an ongoing interaction with farmers in specific villages. A number of interesting results have emerged from these projects (Sanghi, 1997).

It was found that pesticides have not been effective in controlling certain pests (especially the Red Hairy Caterpillar afflicting the castor crop) for various reasons. One reason was that pests could always creep in from the neighbours' farms. This led to some experiments with community co-operation, e.g., jointly organising bonfires in order to attract and trap the pests. Although the results were encouraging, pestilence did not seem to go away. Many further experiments were conducted collaboratively to explore the various relationships among climate, soil quality, rainfall, bonfire, etc. Many interesting relationships were identified and the periodicity of bonfires could be staggered to improve pest control. However, the bonfire solution seemed to create its own problems, e.g., the problem of smoke. One solution was to try standard light traps. But these were found to be too expensive and capable of making people dependent on external sources of technological know-how. Eventually, low-cost light traps were developed using local material. But this solution again highlighted the importance of community-level co-operation, because all farms had to implement it and use it together.

The experience of the Centre shows that not only do the solutions have to be developed locally, their use has also to be orchestrated in a certain co-operative manner. Besides, it is also becoming evident to the Centre that the farmer's main interest is not the control of one pest alone, but a good crop in general; that implies an interest in the control of other pests, seed, credit, sales, etc., i.e., the whole farming system.

Organisation	Person(s) Contacted	E-mail address (if any)
Department of Agriculture Government of Maharashtra Mantralaya Mumbai India	Mr. Umesh Chandra Sarangi	agricomm@mah.mah.nic.in

The National Agricultural Technology Project (NATP) is currently being implemented in a number of states in India, including the state of Maharashtra. NATP is said to have been initiated jointly by the Indian Council of Agricultural Research (ICAR; see ICAR homepage at <http://www.nic.in/icar/>) and the central Department of Agriculture with substantial credit from the International Development Association (IDA) of The World Bank (see The World Bank News Release No. 98/1681/SAS at <http://www.worldbank.org/html/extdr/extme/1681.htm>).

One of the aims of the Project is to revitalise the elaborate national agricultural research and technology dissemination system such that it becomes more responsive to local demands. Some of the core ideas of this project are: strengthening of mechanisms to collect farmers' feedback, improving technical capacity within the extension system, building local capacity to validate and refine technologies, facilitating on-farm adaptive research, developing location-specific and system-based technologies, and ensuring financial sustainability of the research-extension system. NATP amounts to an official endorsement of the *farming systems research* perspective.

One of the striking features of this project is the relative openness with respect to the final pattern of interaction among various research organisations, technology dissemination agencies, as well as farmers' organisations, that might emerge at the end, although many aspects of it have already been predetermined. It was reported that the project might be viewed as a large-scale action research adventure.

Organisation	Person(s) Contacted	E-mail address (if any)
Development Alternatives B-32, TARA Crescent Qutab Institutional Area New Delhi - 110016 India	Dr. Ashok Khosla Mr. KR Lakshmikantan Mr. SK Sharma	tara@sdalt.ernet.in

The Development Alternatives (DA) group of organisations are said to be engaged in the creation of *sustainable livelihoods* in large numbers (see Development Alternatives Group page at <http://www.ecouncil.ac.cr/devalt/dagrp.htm>). This primarily involves the design and dissemination of appropriate technologies, and the development of appropriate support systems and organisations.

One of their recent projects involved the demonstration and dissemination of the energy efficient Vertical Shaft Brick Kiln (VSBK) technology for the manufacturing of bricks (see The Vertical Shaft Brick Kiln at <http://www.gtz.de/basin/gate/vertical.htm>). This was said to be an *action research* project. It involved DA's partnership with a rural development organisation (Gram Vikas, Mohuda Post, Berhampur 760002, Ganjam District, Orissa, India) which adopted the technology. A number of adaptations to the original design were involved to suit local requirements, local raw materials, and the skills available (Lakshmikantan, 1997).

The Development Alternatives group has conceptualised and initiated an *appropriate technology resource centre* called TARAGram, located in Orchha, in the State of Madhya Pradesh, India (Vaidyanathan and Kumar, 1996). TARA stands for Technology and Action for Rural Advancement (an organisation within the DA fold) and *Gram* in some Indian languages means village. The stated mission of TARAGram is to promote technologies and institutions that can regenerate the resource base and make it available for utilisation in an efficient, equitable, and environmentally sound manner. TARAGram seems to serve as a model for bringing together social, environmental, and technological knowledge to generate sustainable livelihoods in rural areas.

Organisation	Person(s) Contacted	E-mail address (if any)
Eklavya Educational Foundation Core House, CG Road Ahmedabad - 380006 India	Mr. Sridhar Rajagopalan	eklavya@ad1.vsnl.net.in

The Foundation was started with the express purpose of setting up and running schools and technical institutes in a professional and ethical manner, so as to provide a new impetus to the educational sector and the educational profession in the country (see <http://www.eklavya.org/>).

The general approach of the foundation is to set up and run educational institutions to high standards of quality and professionalism (as defined tentatively by the Foundation), which would act as models for others. The difference between this approach and the approach of trying to influence national educational policy either through criticism, research, or advocacy is viewed as significant by the foundation. The approach of the Foundation is implemented through the following means: (i) 'professionalising' education, i.e., separating 'educational management' from academic aspects, (ii) attracting the 'best minds' to the field of education, (iii) introducing 'modern educational methodologies', and (iv) networking with 'leading educational institutions' in India and abroad.

Presently the Foundation is keen about creating a breed of trained and professional educational managers. The approach so far has been to attract highly qualified professionals (e.g., engineers and MBAs) to the Foundation and undertake studies on various aspects of educational management. The schools run by the Foundation are viewed as experimental, i.e., a number of aspects are taken to be open and subject to revision, e.g., curriculum, teaching methods, design of the teaching/learning environment, type and extent of punishment, etc.

Organisation	Person(s) Contacted	E-mail address (if any)
Foundation for Humanisation 11, Yogniti, 18 SV Road, Santacruz (West) Mumbai - 400054 India	Mr. BM Aiyyappa	

The Foundation was formed by members belonging to The Humanist Movement, India, which is part of an international movement to promote human dignity, justice, equality and liberty in the contemporary world (see Foundation for Humanization homepage at <http://www.indiawatch.org.in/ngo/ffh/>; The Humanist Movement homepage at <http://www.humanist.org/>).

The Humanist Movement is said to have originated in Argentina and has now expanded to about 67 countries. The broad aim of the Movement is to redress various types of de-humanising processes currently going on in organisations and in society at large. On the one hand, the Movement seeks to address the human problems arising due to the negative side effects of economic and technological development, namely retrenchments, unemployment, break-up of family ties, loss of traditional values, objectification of human beings, etc.; on the other, the Movement also seeks to create the necessary social structures which will avoid the dehumanising outcomes. These goals are sought to be addressed through the spread of what is called the 'humanist attitude' at the individual as well as organisational and social levels.

The Foundation for Humanisation seeks to promote and support various activities of the Humanist Movement, India. The present activities supported by the Foundation include organising 'weekly meetings' at the neighbourhood level for inculcating the humanist attitude among the participants, running humanist centres which co-ordinate neighbourhood activities, publishing neighbourhood newsletters and other publications for wider circulation, organising various campaigns towards greater humanisation, and supporting the Humanist Party of India.

The focus of the Movement and the Foundation highlight the capacity of human environments (e.g., family units, neighbourhoods, places of work, etc.) for *self-transformation* through sustained and co-ordinated action.

Organisation	Person(s) Contacted	E-mail address (if any)
Gujarat Institute of Development Research Near Gota Char Rasta Gota - 382481 Ahmedabad India	Dr. Amitabh Kundu Dr. Keshab Das Dr. R. Parthasarathy Dr. Rohini Patel Dr. Sudarshan Iyengar	gidr@ad1.vsnl.net.in

Like CSS at Surat (see Subsection 6.3.9), GIDR at Ahmedabad is also an ICSSR-supported research institute. Researchers at GIDR have conducted various types of research studies. Some of their studies have used the Process Documentation Research (PDR) approach in a number of projects.

The PDR approach is said to have originated in the Philippines (for an early articulation of the approach see Pratt, 1966). The approach involves collection of information on some ongoing project, interpretation of this information (in the light of prior knowledge of similar projects and prior information about the objectives of the current project), and provision of feedback to the agencies implementing the project. Methods such as participant observation, ethnography, survey, and focus group discussion have been used by GIDR researchers to collect data in live project situations. Researchers within the PDR team are not expected to ‘intervene’, but remain as a disinterested party and provide an independent analysis based on unbiased report. The output of a PDR exercise, when discussed with the project implementing agency, is expected to result in a change in the project implementation process and/or the design of the PDR itself.

Researchers at GIDR tend to emphasise a distinction between PDR and a notion of action research in which the actors are encouraged to be researchers themselves. They argue that the notion of ‘actor-as-researcher’ fails to take into account the fact that most projects are implemented within an organisational context which, when confronted with many alternative viewpoints, invariably reinforces the ‘official’ view. This highlights the role of independent research. However, certain general problems of independent research are also reported. The most urgent one seems to be concerning the maintenance of an independent status in the face of declining governmental support and increased dependence on clients. The problem gets highlighted when clients make unacceptable demands, e.g., the demand for well-designed data collection forms without the subsequent access to the data collected through the forms.

Organisation	Person(s) Contacted	E-mail address (if any)
Indian Institute of Health Management Research 1, Prabhudayal Marg Sanganer Airport Jaipur - 302011 India	Dr. RM Maru (Expired, 1998) Dr. SD Gupta Dr. Prasanta Pathak Prof. Sagar C Jain Dr. Hitesh Gupta Ms. Jaimala Gupta	root@iihmrj.sirnetd.ernet.in

The Institute is dedicated to the improvement of health through better management of health and related programmes (see their homepage at <http://www.indiaconnect.com/iihmr.htm>). It conducts various educational programmes in public health, health administration, and hospital management, for health professionals, senior executives in the health sector, various other health workers, as well as fresh graduates. It also engages itself in various research and consulting projects for the Ministry of Health & Family Welfare (Government of India), Planning Commission, Indian Council of Medical Research, State governments, and other health-promoting agencies.

Research at IIHMR has included studies on health status, health behaviour, field experiments on health care measures, design/implementation/evaluation of health care delivery systems, and institutional strengthening projects. Two current research projects, described as *operations research* projects, might be of interest in the present context: (i) *VIKALP*: An alternative system for improving family welfare programme (Kothari, *et al.*, 1997) and (ii) improving health service delivery in villages by implementing a model of networking among locally available health service providers, community organisations, and beneficiaries.

The first project, *Vikalp*, aims at developing a *prototype system* for managing the Family Welfare Programme (of the Ministry of Health and Family Welfare, Government of India, <http://www.nic.in/mohfw/>) at the district level, with a potential for replication throughout the State of Gujarat, to achieve the goal of population stabilisation. (*Vikalp* means alternative, in many Indian languages.) The prototype identified a new managerial role at the district level (that of the District Manager), identifying responsibilities for the provision of client-oriented services, and introducing new systems of administration, support, and monitoring for the District Manager. The prototype system was implemented in two districts of the State of Rajasthan. The project brought a new managerial practice and terminology into the health care delivery system in these districts. The results of the two years of the project so far have been reported to be encouraging and the state of Rajasthan is said to have adopted many of the *Vikalp* processes State-wide (Kothari, *et al.*, 1997).

The second project aims at improving both the quality and the utilisation of scarcely available health services in the project area of the client—Bhoruka Charitable Trust (BCT). The area constitutes about 60 desert villages within which a number of health programmes are being implemented by BCT and various governmental and voluntary organisations. The project seeks to introduce a number of new interactions and information flows within the area so as to improve the quality and the utilisation of potentially valuable social resources such as rural medical practitioners, informal health workers, informal educational workers, etc. One of the difficulties is to ensure that the new interactions continue after the project is completed.

Both these projects seem to involve designing of systems in order that the designed systems maintain themselves and develop some desirable qualities when in operation.



Organisation	Person(s) Contacted	E-mail address (if any)
Indian Society for Applied Behavioural Science (ISABS) C/o M. Thomas & Co. 40 Yusuf Sarai New Delhi - 110016 India	Dr. Udai Pareek	pareek@iihmrj.sirnetd.ernet.in

ISABS is a professional body in the area of applied behavioural science. Its members work as consultants, trainers, counsellors, teachers, and managers in the areas of personal growth and organisational development. ISABS defines the profession as one engaged in the application of behavioural science for the well-being of persons and organisations.

The Society holds regular workshops (or 'labs') to demonstrate the value of the profession. It uses experience-based learning (in T-Groups) and self-analytical group processes as its main strategy in the 'labs'. These 'labs' are said to help participants to become more sensitive to their and others' feelings, needs, and behaviour; and also help them understand the reasons of their and others' behaviour more clearly. This is expected to make them better team players. The Basic Human Process Lab (BHP), Advanced Human Process Lab (AHP), and Special Labs on endogenous competence, role empowerment, personal effectiveness, values, leadership and institution building, etc., have become known in the management parlance in India.

The Society seeks to achieve *professional development* through a phased programme to develop applied behavioural science professionals having 'process competencies' and capable of facilitating 'experience-based learning in organisations'. There are specified criteria for eligibility in each phase which have to be fulfilled by a candidate before becoming a professional member of the Society. These professionals are expected to take up the role of change agents in organisations either as internal or external consultants and help others in achieving the desired changes at the individual, organisational, or community levels.

Organisation	Person(s) Contacted	E-mail address (if any)
Indian Society for Individual and Social Development Sudeep, Navneet Park Polytechnic Ahmedabad - 380015 India	Dr. Pulin Garg	

ISISD aims to promote regeneration of the Indian identity and culture. This is said to be a response to the problems of an excessive emphasis on the imported models of technological and economic development to the complete neglect of the cultural system of values and the philosophy of living held by many people. The Society seeks to highlight and reinforce the 'positives' of the Indian cultural identity (Garg and Parikh, 1995).

This is to be achieved through the mobilisation of 'self and system resources', in specific contexts of corporate leadership, teaching, fostering growth (e.g., parenting), family management, fresh membership in groups and organisations, etc. The method usually involves the application of various 'process technologies' (e.g., psychodrama, life role analysis, institution building lab, etc.) in group situations, within specific target-group oriented programmes. These programmes are directed towards helping individuals deal with the competing priorities of their lives, typically by enhancing the search for meaningfulness in their roles and exploring *life spaces* available in the Indian socio-cultural scenario. The programmes generally orchestrate an enabling environment within which the participants might share experiences and jointly explore issues of living and working. The purpose of these programmes to help the participants identify relevant values and goals for themselves and recognise the life spaces available to them.

The Society also conducts internship programme to prepare others to conduct such process work. ISISD views its broader task as one of creating a dynamic but distinctly *self-generating* culture and society.

Organisation	Person(s) Contacted	E-mail address (if any)
Institute of Development Studies 8-B, Jhalana Institutional Area Jaipur - 302004 India	Dr. Jyotsna Rajvanshi Dr. SS Acharya	root@ssids.ren.nic.in

IDSJ is one of the ICSSR-supported research institutes (see Subsections 6.3.9 and 6.3.15). The Institute is said to be a multi-disciplinary research organisation seeking to contribute to the understanding of the development process and problems in India, and the resolution of these problems in multi-disciplinary and collaborative ways.

A recent study initiated by IDSJ aims to revitalise wool-based industries in rural Rajasthan. An earlier study of the Institute had explored the wool economy of the State in great detail. This earlier study had identified that producers' associations and Common Facility Centres (CFCs) (for shearing, grading, packing, storing, etc.) could bring about a breakthrough in raw wool production. The current action-oriented study seeks to examine the implementability of this solution by actually implementing one such project to set up a CFC. A willing partner in the form of a voluntary organisation has been found which would set up a Primary Sheep Rearing Organisation based on membership from a certain number of villages. The Primary Sheep Rearing Organisation will set up and run a CFC for the members.

It was reported that there are certain limitations for a research institute like IDSJ to adopt always a truly action-oriented research perspective. The institutional framework within which IDSJ operates does not grant it the necessary mandate to become action-oriented always. The Institute is usually expected to provide recommendations alone by its traditional clients. What the clients do with the recommendations is not usually considered to be within the domain of research. It was felt that for a more action-oriented research perspective to emerge, the Institute would have to enter into newer, more collaborative, forms of interaction with the client.

Organisation	Person(s) Contacted	E-mail address (if any)
Kulkarni Consultants 5/6, A-2, Harmony 5, ICS Colony Pune - 411007 India	Dr. PD Kulkarni	

Kulkarni Consultants take up design and development of *instructional systems* in existing educational (and training) establishments. Concepts and procedures of *systems thinking* are said to be used for this purpose. The instructional system is visualised as one that can achieve a set of transformations; however, unlike more mechanical systems, an instructional system has a less well-specified output, i.e., learning. Besides, an instructional system has also to respond to the changes required of it from time to time.

Kulkarni Consultants work in close collaboration with the client organisation. Most of their projects involve the redesigning of curricula, pedagogy, instructional environment, educational technology, personnel policies, organisational structure, systems, etc.

The main difficulty in carrying out such projects, it was reported, is the existing mind-sets of the people running educational establishments, as well as their inadequate knowledge about learning processes. Therefore, training of the client personnel (especially their senior managers) is considered by Kulkarni Consultants as an important part of the consulting work. Training is provided in systems thinking, learning theories, strategic management, etc.

Organisation	Person(s) Contacted	E-mail address (if any)
Lokayan 13 Alipur Road Delhi - 110054 India	Mr. Rajendra Ravi	"Smitu Kothari" <smitu@www.princeton.edu>

Lokayan provides a forum for debate and dialogue on issues of economic backwardness, human rights, industrialisation, role of the state, peoples' movements, social justice, sustainable livelihood, etc. Lokayan has sought to develop a network of people and organisations working among the so called discriminated and marginalised sections of society. It has aimed to collect and present the experiences and the analyses of these discriminated and marginalised people themselves, especially those who have otherwise little voice in the affairs of the society.

The English language periodical *Lokayan Bulletin* seeks to promote dialogue among academics, policy makers, social and political activists, and various voluntary organisations. Over the last decade the Bulletin has provided a critical analysis of the established model of development and political action, and the processes of cultural and ecological homogenisation, with the stated intention of contributing to the process of building a decentralised and democratic society. The Bulletin is stated to promote *creative interaction* of a kind that can lead to the development of frameworks to understand and change the 'reality'. Lokayan was awarded the Right Livelihood Award (also known as the Alternative Nobel Prize) in 1985, 'for linking and strengthening local groups working to protect civil liberties, women's rights, and the environment', 'for creating "Dialogue with the People" through networking of local initiatives' (comments from the Right Livelihood Award Foundation, Sweden).

Organisation	Person(s) Contacted	E-mail address (if any)
Malaria Research Centre 20 Madhuban New Delhi - 110092 India	Dr. VP Sharma	vps@icmrsrc.ren.nic.in

The Malaria Research Centre had found that the well-known chemical solutions to malaria prevention (e.g., the use of DDT and Hexachloro-Cyclo-Hexane, HCH) can become ineffective and counter-productive under certain circumstances. It had begun exploring alternative approaches to disease control and prevention. The Centre had collaborated with the Vector Control Research Centre, Pondicherry, to conduct experimental projects to stop all chemical use and develop the methodology of *community-oriented bioenvironmental management*, to prevent malaria and elephantiasis (filariasis). These research projects were financed by the Indian Council of Medical Research (ICMR).

The methodology involved two kinds of control measures against mosquitoes: (i) *biological management* (releasing larvae-eating fishes in the open water bodies and spraying biological—rather than chemical—larvicides), and (ii) *environmental management* (improving drainage and sanitation systems, filling up ditches, using treated mosquito nets, covering domestic water tanks, etc.). The experimental projects were carried out in six locations, namely Goa, Pondicherry, Chennai, Kheda, Kolar, and Hassan. The methodology of *community-oriented bioenvironmental management* was ‘successful in the short run’ in all these locations, but the methodology could not be continued to be applied in the long run. No mechanism was devised to ensure a continued application of the methodology. Some of the State governments have continued with the traditional chemical-based controls (sometimes under the pressure of pesticide lobbies); some of the public agencies responsible for disease control seem to have attached a lesser priority to mosquito control; sometimes the required funding for continuing bioenvironmental management has not been made available; and in some cases the local communities have not been made aware of the methodology (Priti Kumar, *et al.*, 1998).

In one instance, i.e., within the industrial complex of Bharat Heavy Electricals Limited (BHEL) at Hardwar, the methodology of bioenvironmental management has been applied continuously and has produced good long term results. However, problems remain with respect to the infiltration of mosquitoes from the adjoining areas outside the BHEL complex. It is recognised that this creates a general difficulty for bio-control. One of the proposed solutions is to maintain a 15 km concentric area surrounding the complex as a buffer zone which would function as a shield against the external mosquitoes (Priti Kumar, *et al.*, 1998).

The above experiences indicate that it is not sufficient to innovate a methodology to achieve effective mosquito control; it is equally important to ensure the continued application of the methodology (perhaps through some form of institutionalisation) as well as the progressive improvement of the methodology to deal with the emerging difficulties.

Organisation	Person(s) Contacted	E-mail address (if any)
Mitraniketan Velland Thiruvananthapuram - 695543 India	Dr. K Vishwanathan	

Mitraniketan is a community-based organisation said to be engaged in promoting integrated and life-relevant education among rural people in the State of Kerala (see Mitraniketan at [http://www.tellink.net/~geo/ic\\_MK.html](http://www.tellink.net/~geo/ic_MK.html)). The Danish 'folk school' model has been implemented at Mitraniketan with elements taken from the educational thoughts of Tagore and Gandhi (see The Danish 'Folkehøjskole' page at <http://www.denmarkemb.org/hojsk93.htm>).

Mitraniketan accommodates farms and gardens, a weaving co-operative, a handicrafts co-operative, various shops, a publishing unit, several schools, an arts and sports unit, a library, three hostels, and a home for the aged within its 70 acre campus. These are all operated by the residents which include students, trainees, and teachers. It hosts various conferences and seminars on development, education, nature preservation, and allied themes. Mitraniketan is also engaged in various developmental work in the surrounding villages. The approach of Mitraniketan is experimental in nature. A spirit of experimentation seems to pervade their educational as well as other activities, e.g., agriculture, forestry, self-employment, etc. There is a research centre within Mitraniketan that provides various forms of guidance to the experimental activities.

Organisation	Person(s) Contacted	E-mail address (if any)
National Institute of Agricultural Extension Management (MANAGE) Rajendranagar Hyderabad - 500030 India	Ms. Lakshmi Murthy Dr. NK Sanghi	MANAGE@hub.nic.in

The Institute is mandated by the Government of India to help farmers adopt improved agricultural technology. It has identified a number of difficulties in the notion of technology transfer. On the one hand, farmers do not always adopt a new technology despite its various promises of yield, quality, etc. On the other hand, even if a technology is adopted, farmers never adopt it in toto; they tend to make many modifications depending upon their specific situation.

This has made the Institute explore alternative notions of managing technology extension. A general approach called 'Farming Situation Based Extension' (FSBE) has been formulated and tried at the Institute. This approach highlights the need to take explicit note of the indigenous technological know-how (ITK) of farmers and identify suitable technologies that might be adapted to the farmers' specific situation. Extension projects using this approach have indicated the importance of recognising a *farming system*, i.e., a combination of cropping patterns, various allied activities of a farmer, financial and other circumstances within which the farmer operates, etc. For example, a chemical pesticide might not be adopted by a farmer simply because it could negatively affect fodder or fish. This is leading the Institute to explore *farming systems research* as an approach to extension management. It was reported that the general notion of research is changing in the agricultural domain. The notion of *user participatory research* is becoming more relevant here as in some other domains, e.g., tribal and rural development, management, etc. However, it is felt that a thoroughly new vocabulary and a new type of research practice might be needed to articulate and guide the type of research required in these areas.



Organisation	Person(s) Contacted	E-mail address (if any)
Ravi J. Matthai Centre for Educational Innovation IIM, Vastrapur Ahmedabad - 380015 India	Dr. Brij Kothari Dr. PG Vijay Sherry Chand	brij@iimahd.ernet.in vijay@iimahd.ernet.in

The Centre aims to address the problems pertaining to higher education in India, e.g., accessibility, content, pedagogy, orientation, administration, etc. (see IIM Ahmedabad Areas/Groups/Centers at <http://www.iimahd.ernet.in/areas-faculty/areas.html>).

The Centre recognises that despite having to work within various constraints, several persons and institutions have developed creative local solutions to some of the problems of higher education. Therefore, one of the major activities of the Centre is the collection and dissemination of specific innovations and cases of excellence among institutions of higher learning. Their English language newsletter *Kayakalp* which reports about the innovative practices of teachers and administrators is intended to promote 'lateral learning' within the higher education sector. *Kayakalp* highlights the importance attached by the Centre to systematic information exchange and networking for the improvement of educational practice. The Centre has conducted various case studies on successful colleges, outstanding teachers, financial management of universities, innovations in curriculum design, etc. Research on higher education has led the Centre to study and address the problems of primary education as well. The Centre has been exploring ways of incorporating local ecological knowledge within the primary school curriculum and securing a greater voice for teachers, parents, and children within the system.

Organisation	Person(s) Contacted	E-mail address (if any)
Sikshasandhan: An Education Resource Centre 158-B, BDA Duplex Baramunda Bhubaneswar - 751003 India	Mr Anil Pradhan	achyut@agragami.unv.ernet.in

Sikshasandhan seeks to improve the educational standards and achievements of the weaker and marginalised sections of society. Its present focus is on certain tribal communities of Orissa. The approach is to develop Sikshasandhan as an *educational resource centre* which would provide educational services to the agencies engaged in spreading education among the target communities. Sikshasandhan has initiated a number of experimental programmes on the basis of its understanding of various educational agencies and the culture of the target communities. It has also been an active participant in the broader educational debates in the State of Orissa and the country (e.g., Sikshasandhan, 1996).

Recently Sikshasandhan has conducted a number of training programmes and workshops for teachers, social workers, and district education officials, etc. Some of these workshops are said to have acted as *learning laboratories* for participants who have to deal with some of the common problems of education among the tribes, e.g., the problem of pedagogy for socio-culturally varied tribal communities, non-availability of culture-specific educational material, the problem of supervision of non-formal education, etc. One of their recent achievements is the publication of primers for the children of some tribes in their own dialect, using expressions and imagery from the socio-cultural context familiar to the children. These primers have been popular among tribal schools.

Organisation	Person(s) Contacted	E-mail address (if any)
Society for Participatory Research in Asia (PRIA) 42, Tughlakabad Instnl. Area New Delhi - 110062 India	Dr. Rajesh Tandon	pria@sdalt.ernet.in

PRIA has been promoting a type of ‘participatory research’ in various developmental initiatives, especially towards strengthening popular knowledge, demystifying dominant concepts, promoting experiential learning, and stimulating people's participation in various developmental processes (see PRIA Homepage at <http://www.pria.org/>). PRIA operates through 4 centres, namely (i) Centre for Participation and Governance, (ii) Centre for Occupational and Environmental Health, (iii) Centre for Institutional Development, and (iv) Centre for Global Alliance.

Its present activities are said to include research, training, and dissemination. The notion of ‘participatory research’ used by PRIA has been explicated in various publications (e.g., Hall, *et al.*, 1982; Kassam and Mustafa, 1982; Pandey and Tandon, 1987; Tandon, 1996). Through its activities, the Society focuses on creating opportunities for *experience sharing* among people from various sections of the society, organisations promoting development, co-operatives, trade unions, consumer groups, institutions of local self-governance (i.e., *Panchayati Raj Institutions*), etc. It also aims to enable *dialogue* across diverse perspectives and institutions on the theme of participation. The persistent focus on participation has led PRIA to grapple with the broader issues of governance in all types of organisations and institutions.

The participatory perspective of PRIA gives greater emphasis on the ‘organisations of civil society’ as opposed to the state or the market. PRIA works towards strengthening civil society organisations through training, networking, organisational development. PRIA’s publications include books, monographs, reports, and 3 periodicals, besides video and audio cassettes.

Organisation	Person(s) Contacted	E-mail address (if any)
Society for Promotion of Area Resource Centres (SPARC) PO Box 9389 Mumbai - 400026 India	Dr. Meera Bapat Ms. Sheela Patel	

SPARC works in the area of community development. It aims to explore new forms of partnership among the urban poor, especially women, in their quest for equity, security, and social justice (Bapat and Patel, 1993; see *A Gender-Sensitive Approach to Shelter: The Work of SPARC in Bombay, India* at <http://www.hsd.ait.ac.th/bestprac/sparc.htm>). It has developed the notion of an *area resource centre* (ARC) which refers to a physical, emotional, and social space where the poor can pool their various skills and resources in order to learn from each other and support each other.

The Society collaborates with *Mahila Milan* (an organisation of women from pavement and slum settlements) and the National Slum Dwellers' Federation (NSDF), to empower sections of poor people mainly in the metropolis of Mumbai. Many innovative solutions have been developed by these collaborating organisations to address specific problems of pavement and slum settlers with their active participation. Some of these solutions are now widely adopted, e.g., self-enumeration, community toilets, crisis credit, exchange programmes (in which women from one settlement visit other settlements in the same city, as also other cities in India and abroad), self-designed shelter, '*Sadak Chhap*' mela (fun fair of street children), etc.

SPARC and its collaborators seem to practice a form of community development which has its basis in *self-organisation* and *self-maintenance*, promoted through various innovative forms of *interaction* among the target populations, i.e., pavement and slum dwellers in urban centres.

Organisation	Person(s) Contacted	E-mail address (if any)
Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI) Ahmedabad - 380015 India	Dr. Anil Gupta	anilg@iimahd.ernet.in

SRISTI has been set up by the promoters of the *Honey Bee Network* in order to strengthen the network. It is a network of people and organisations identifying, rewarding, and expanding various local innovations, especially related to sustainable livelihood. The innovations highlighted by the network are those which provide solutions to local problems while contributing to the conservation of local resources and generating additional income (Gupta, 1996; see Welcome to SRISTI at <http://www.iimahd.ernet.in/~anilg/sristi/sristi.htm>).

SRISTI is said to have one of the largest databases in the world on innovations developed by people 'without the help of outsiders'. The *Honey Bee* newsletter describes such innovations with proper credit given to the innovator. The newsletter is published quarterly in seven languages and goes to over 75 countries. (The name *Honey Bee* is based on the image of a honeybee that collects pollen without impoverishing the flowers, and it connects one flower to another through pollination.)

SRISTI is founded on the realisation that many social and technological innovations are dissipated because of the absence of suitable support systems. Various notions of support systems have been developed by SRISTI, e.g., *research networks* (Gupta and Rais, 1996), *knowledge centres*, and *knowledge networks*. Apart from documenting and disseminating innovations, the Society also develops incentive models for rewarding grassroots creativity, validates local innovations through experiments, and seeks to embed these innovations in various formal educational systems. The general approach of SRISTI is oriented towards recognition of and value addition to local knowledge, *augmentation* of local solutions, and bridging the *gap* between formal and non-formal knowledge systems.

SRISTI has recently floated the Gujarat Grassroots Innovations Augmentation Network (GIAN) which aims to facilitate the development and subsequent commercialisation of suitable innovations by bringing together the innovator, researchers, investor, and various other agencies (see GIAN homepage at <http://csf.colorado.edu/sristi/gian.html>)

Organisation	Person(s) Contacted	E-mail address (if any)
Systems Research Institute 17-A, Gultekdi Pune - 411037 India	Dr. JG Krishnayya	jgk@soochak.ncst.ernet.in

The Systems Research Institute specialises in *operational research* and *systems analysis*. A number of studies have been carried out by the Institute in the areas of decision support, forecasting, simulation, policy modelling, etc. The Institute has developed computer-based models and simulation games to aid policy analysis and decision making. It has also developed its own computer-based Geographical Information System (GIS) for thematic mapping to aid district-level planning in India.

The Institute is currently exploring the possibility of using its expertise and experience in designing GIS software to facilitate decentralised developmental planning. This is to be achieved through creating *information resource centres* at the *mandal*-level (*mandal*: a cluster of about 10 villages), which would be accessible to a range of users including those responsible for village-level planning. This would require educating the potential users and simplifying the technology (hardware and software) to suit such applications. Given the progressive sophistication of computer technology and programming skills in India and elsewhere, the Institute seems to be going through a process of rethinking about the role it might play in future. The direction that seems to be emerging is one that involves a role in reducing the ever-increasing gap between the computer technology and its potential users in the vast rural areas of the country.